

Resource Conservation and Recovery Act Post-Closure Care Permit Application

For U.S.D.O.E.-Rocky Flats Plant
Hazardous & Radioactive Mixed Wastes

CO7890010526

5 October 1988

Volume VIII

ADMIN RECORD

REVIEWED FOR CLASSIFICATION/UNCLASSIFIED

By *[Signature]* [Signature]

Date *11/11/92*

A-SW-000290

APPENDIX C
ANALYTICAL CHEMISTRY

SOLAR POND CLOSURE CHARACTERIZATION REPORT
ROCKY FLATS PLANT, GOLDEN, COLORADO

1 JULY 1988

APPENDICES

REVIEWED FOR CLASSIFICATION/UCM

By John L. Morris UNM
Date 4/1/90

This appendix contains analytical results for core samples, ground water, surface water, and sediment samples collected in 1986, 1987, and first quarter 1988 when available for the Solar Ponds Area. The enclosed data are presented in the following order:

Appendix C-1: Soils Analytical Data
 Volatile Organics
 Semi-Volatiles
 Pesticide/PCBs
 Radionuclides
 Inorganics
 Metals

Appendix C-2: Ground-water Analytical Data Alluvial
 Wells
 Volatile Organics
 Radionuclides
 Inorganics
 Metals

Appendix C-3: Ground-water Analytical Data Bedrock
 Wells
 Volatile Organics
 Radionuclides
 Inorganics
 Metals

Appendix C-4: Surface Water Analytical Data
 Volatile Organics
 Semi-Volatiles
 Pesticide/PCBs
 Radionuclides
 Inorganics
 Metals

Appendix C-5: Sediment Analytical Data
 Volatile Organics
 Semi-Volatiles
 Pesticide/PCBs
 Radionuclides
 Inorganics
 Metals

SOLAR POND CORE SAMPLES
METALS
INORGANICS DATA SUMMARY REPORT

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

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Sample Information

RFW Batch ID:	8609-022-014	8609-022-017
Customer ID:	C278609861	C278609862
Matrix:	Soil	Soil
Units:	MG/KG	MG/KG

Metals

Silver (Ag), total.....	2.5	U	2.4	U
Aluminum (Al), total.....	14400		11500	
Arsenic (As), total.....	0.91		0.95	
Barium (Ba), total.....	110		38	
Beryllium (Be), total.....	1.3	U	1.2	U
Calcium (Ca), total.....	5750		5280	
Cadmium (Cd), total.....	1.3	U	1.2	U
Cobalt (Co), total.....	13	U	12	U
Chromium (Cr), total.....	11		11	
Cesium (Cs), total.....	25	U	24	U
Copper (Cu), total.....	17		9.8	
Iron (Fe), total.....	5110		10600	
Mercury (Hg), total.....	0.25	U	2.8	
Potassium (K), total.....	1320		1050	
Lithium (Li), total.....				
Magnesium (Mg), total.....	3700		3700	
Manganese (Mn), total.....	180		43	
Molybdenum(Mo), total.....	38	U	36	U
Sodium (Na), total.....	400		340	
Nickel (Ni), total.....	10	U	26	
Lead (Pb), total.....	25		14	
Antimony (Sb), total.....	1.3	U	1.2	U
Selenium (Se), total.....	0.40		0.38	
Strontium (Sr), total.....	130		56	
Thallium (Tl), total.....	2.5	U	2.4	U
Vanadium (V), total.....	21		14	
Zinc (Zn), total.....	84		71	

APPENDIX C-1
SOILS ANALYTICAL DATA

**SOLAR POND CLOSURE CHARACTERIZATION REPORT
ROCKY FLATS PLANT, GOLDEN, COLORADO**

1 JULY 1988

APPENDICES

VOLATILE ORGANICS

SOLAR POND CLOSURE CHARACTERIZATION REPORT
ROCKY FLATS PLANT, GOLDEN, COLORADO

1 JULY 1988

APPENDICES

List: Customer ID's: All

RFW Batch ID	Customer ID	Laboratory ID
BH87-881-010	SP018700FS	
BH87-881-011	SP018704DH	
BH87-881-012	SP018705DH	
BH87-881-001	SP018711DH	
BH87-881-007	SP018713DH	
BH87-881-015	SP018716BR	
BH87-881-016	SP018721DH	
BH87-881-017	SP018723DH	
BH87-881-004	SP028711CT	
8710-073-0110	SP038703FS	-11
BH87-881-002	SP038711DH	
BH87-881-008	SP038713CT	
BH87-881-009	SP038716BR	
BH87-881-020	SP0487004D	
BH87-881-018	SP048702DH	
BH87-881-019	SP048704DH	
BH87-881-021	SP048707DH	
BH87-881-025	SP048710DH	
BH87-881-026	SP048712DH	
BH87-881-027	SP048715FS	
BH87-881-028	SP048717DH	
BH87-881-029	SP048720DH	
BH87-881-030	SP048722DH	
BH87-881-031	SP048725DH	
BH87-881-032	SP048727DH	
BH87-881-033	SP048730DH	
BH87-881-044	SP048732DH	
BH87-881-053	SP058700DH	
BH87-881-054	SP058702DH	
BH87-881-055	SP058704DH	
BH87-881-056	SP058707DH	
BH87-881-035	SP068702FS	
BH87-881-036	SP068708DH	
BH87-881-037	SP068711DH	
BH87-881-038	SP068713DH	
BH87-881-039	SP068716DH	
BH87-881-040	SP068718DH	
BH87-881-041	SP068721DH	
BH87-881-042	SP068724DH	
BH87-881-043	SP068726DH	
BH87-881-013	SP088706CT	
BH87-881-014	SP088709BR	
BH87-881-023	SP098706CT	
BH87-881-024	SP098708BR	
BH87-881-045	SP11870008	
BH87-881-034	SP118708DH	
BH87-881-046	SP118711DH	
BH87-881-047	SP118714DH	
BH87-881-048	SP118716DH	
BH87-881-049	SP118719DH	
BH87-881-050	SP118721DH	

WESTON ANALYTICS: Volatiles

May 26, 1988

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List: Customer ID's: All

RFW Batch ID	Customer ID	Laboratory ID
BH87-881-051	SP118724DH	
BH87-881-052	SP118726DH	

SOLAR POND BOREHOLE SAMPLES

GC/MS DATA SUMMARY

Volatile HAZARDOUS SUBSTANCE LIST COMPOUNDS

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

Page: 1

Sample Information

RFW Batch ID:	BH87-881-010	BH87-881-011	BH87-881-012	BH87-881-001
Customer ID:	SP018700FS	SP018704DH	SP018705DH	SP018711DH
Matrix:	Soil	Soil	Soil	Soil
Units:	UG/KG	UG/KG	UG/KG	UG/KG
Dilution Factor:	1.0	1.0	1.0	1.0

Surrogate Recovery

Toluene-d8:	90 %	88 %	0 %	0 %
Bromofluorobenzene:	110 %	130 %	0 %	122 %
1,2-Dichloroethane-d4:	118 %	112 %	0 %	118 %

Analytes

Chloromethane.....	50 U	50 U	50 U	50 U
Bromomethane.....	50 U	50 U	50 U	50 U
Vinyl Chloride.....	50 U	50 U	50 U	50 U
Chloroethane.....	50 U	50 U	50 U	50 U
Methylene Chloride.....	25 U	25 U	25 U	25 U
Acetone.....	50 U	50 U	50 U	50 U
Carbon Disulfide.....	25 U	25 U	25 U	25 U
1,1-Dichloroethene.....	25 U	25 U	25 U	25 U
1,1-Dichloroethane.....	25 U	25 U	25 U	25 U
Trans-1,2-Dichloroethene.....	25 U	25 U	25 U	25 U
Chloroform.....	25 U	6 J	25 U	25 U
1,2-Dichloroethane.....	25 U	25 U	25 U	25 U
2-Butanone.....	50 U	50 U	50 U	50 U
1,1,1-Trichloroethane.....	25 U	25 U	25 U	25 U
Carbon Tetrachloride.....	25 U	25 U	25 U	25 U
Vinyl Acetate.....	50 U	50 U	50 U	50 U
Bromodichloromethane.....	25 U	25 U	25 U	25 U
1,2-Dichloropropane.....	25 U	25 U	25 U	25 U
Trans-1,3-Dichloropropene.....	25 U	25 U	25 U	25 U
Trichloroethene.....	25 U	25 U	25 U	25 U
Dibromochloromethane.....	25 U	25 U	25 U	25 U
1,1,2-Trichloroethane.....	25 U	25 U	25 U	25 U
Benzene.....	25 U	25 U	25 U	25 U
cis-1,3-Dichloropropene.....	25 U	25 U	25 U	25 U
2-Chloroethylvinylether.....	50 U	50 U	50 U	50 U
Bromoform.....	25 U	25 U	25 U	25 U
4-Methyl-2-pentanone.....	50 U	50 U	50 U	50 U
2-Hexanone.....	50 U	50 U	50 U	50 U
Tetrachloroethene.....	25 U	25 U	25 U	25 U
1,1,2,2-Tetrachloroethane.....	25 U	25 U	25 U	25 U
Toluene.....	25 U	25 U	25 U	25 U
Chlorobenzene.....	25 U	25 U	25 U	25 U
Ethylbenzene.....	25 U	25 U	25 U	25 U
Styrene.....	25 U	25 U	25 U	25 U
Total Xylenes.....	25 U	25 U	25 U	25 U

Modifiers: U=Analyzed, not detected. J=Present below detection limit. B=Present in blank. NS=Not spiked. %=Percent recovery.

SOLAR POND BOREHOLE SAMPLES
GC/MS DATA SUMMARY
Volatile HAZARDOUS SUBSTANCE LIST COMPOUNDS

RFW Batch Number: Client: ROCKWELL (ROCKY FLATS) Page: 2

Sample Information

RFW Batch ID:	BH87-881-007	BH87-881-015	BH87-881-016	BH87-881-017
Customer ID:	SP018713DH	SP0187168R	SP018721DH	SP018723DH
Matrix:	Soil	Soil	Soil	Soil
Units:	UG/KG	UG/KG	UG/KG	UG/KG
Dilution Factor:	1.0	1.0	1.0	1.0

Surrogate Recovery

Toluene-d8:	0 %	84 %	78 %	84 %
Bromofluorobenzene:	0 %	126 %	126 %	130 %
1,2-Dichloroethane-d4:	114 %	104 %	118 %	112 %

Analytes

Chloromethane.....	50 U	50 U	50 U	50 U
Bromomethane.....	50 U	50 U	50 U	50 U
Vinyl Chloride.....	50 U	50 U	50 U	50 U
Chloroethane.....	50 U	50 U	50 U	50 U
Methylene Chloride.....	25 U	25 U	25 U	25 U
Acetone.....	50 U	50 U	50 U	50 U
Carbon Disulfide.....	25 U	25 U	25 U	25 U
1,1-Dichloroethene.....	25 U	25 U	25 U	25 U
1,1-Dichloroethane.....	25 U	25 U	25 U	25 U
Trans-1,2-Dichloroethene.....	25 U	25 U	25 U	25 U
Chloroform.....	6 J	25 U	25 U	25 U
1,2-Dichloroethane.....	25 U	25 U	25 U	25 U
2-Butanone.....	50 U	50 U	50 U	50 U
1,1,1-Trichloroethane.....	25 U	25 U	25 U	25 U
Carbon Tetrachloride.....	25 U	25 U	25 U	25 U
Vinyl Acetate.....	50 U	50 U	50 U	50 U
Bromodichloromethane.....	25 U	25 U	25 U	25 U
1,2-Dichloropropane.....	25 U	25 U	25 U	25 U
Trans-1,3-Dichloropropene.....	25 U	25 U	25 U	25 U
Trichloroethene.....	25 U	25 U	25 U	25 U
Dibromochloromethane.....	25 U	25 U	25 U	25 U
1,1,2-Trichloroethane.....	25 U	25 U	25 U	25 U
Benzene.....	25 U	25 U	25 U	25 U
cis-1,3-Dichloropropene.....	25 U	25 U	25 U	25 U
2-Chloroethylvinylether.....	50 U	50 U	50 U	50 U
Bromoform.....	25 U	25 U	25 U	25 U
4-Methyl-2-pentanone.....	50 U	50 U	50 U	50 U
2-Hexanone.....	50 U	50 U	50 U	50 U
Tetrachloroethene.....	25 U	25 U	25 U	25 U
1,1,2,2-Tetrachloroethane.....	25 U	25 U	25 U	25 U
Toluene.....	25 U	25 U	25 U	25 U
Chlorobenzene.....	25 U	25 U	25 U	25 U
Ethylbenzene.....	25 U	25 U	25 U	25 U
Styrene.....	25 U	25 U	25 U	25 U
Total Xylenes.....	25 U	25 U	25 U	25 U

Modifiers: U=Analyzed, not detected. J=Present below detection limit. B=Present in blank. NS=Not spiked. %=Percent recovery.

SOLAR POND BOREHOLE SAMPLES

GC/MS DATA SUMMARY

Volatile HAZARDOUS SUBSTANCE LIST COMPOUNDS

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

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Sample Information

RFW Batch ID:	BH87-881-004	8710-073-0110	BH87-881-002	BH87-881-008
Customer ID:	SP028711CT	SP038703FS	SP038711DH	SP038713CT
Matrix:	Soil	Soil	Soil	Soil
Units:	UG/KG	UG/KG	UG/KG	UG/KG
Dilution Factor:	1.0	5.0	1.0	1.0

Surrogate Recovery

Toluene-d8:	88 %	103 %	0 %	84 %
Bromofluorobenzene:	130 %	100 %	0 %	132 %
1,2-Dichloroethane-d4:	120 %	96 %	0 %	120 %

Analytes

Chloromethane.....	50 U	50.00 U	50 U	50 U
Bromomethane.....	50 U	50.00 U	50 U	50 U
Vinyl Chloride.....	50 U	50.00 U	50 U	50 U
Chloroethane.....	50 U	50.00 U	50 U	50 U
Methylene Chloride.....	25 U	18.00 JB	25 U	18 J
Acetone.....	50 U	50.00 U	50 U	50 U
Carbon Disulfide.....	25 U	25.00 U	25 U	25 U
1,1-Dichloroethene.....	25 U	25.00 U	25 U	25 U
1,1-Dichloroethane.....	25 U	25.00 U	25 U	25 U
Trans-1,2-Dichloroethene.....	25 U	25.00 U	25 U	25 U
Chloroform.....	10 J	25.00 U	25 U	25 U
1,2-Dichloroethane.....	25 U	25.00 U	25 U	25 U
2-Butanone.....	50 U	50.00 U	50 U	50 U
1,1,1-Trichloroethane.....	25 U	25.00 U	25 U	25 U
Carbon Tetrachloride.....	25 U	25.00 U	25 U	25 U
Vinyl Acetate.....	50 U	50.00 U	50 U	50 U
Bromodichloromethane.....	25 U	25.00 U	25 U	25 U
1,2-Dichloropropane.....	25 U	25.00 U	25 U	25 U
Trans-1,3-Dichloropropene.....	25 U	25.00 U	25 U	25 U
Trichloroethene.....	25 U	8.00 JB	25 U	25 U
Dibromochloromethane.....	25 U	25.00 U	25 U	25 U
1,1,2-Trichloroethane.....	25 U	25.00 U	25 U	25 U
Benzene.....	25 U	25.00 U	25 U	25 U
cis-1,3-Dichloropropene.....	25 U	25.00 U	25 U	25 U
2-Chloroethylvinylether.....	50 U	50.00 U	50 U	50 U
Bromoform.....	25 U	25.00 U	25 U	25 U
4-Methyl-2-pentanone.....	50 U	50.00 U	50 U	50 U
2-Hexanone.....	50 U	50.00 U	50 U	50 U
Tetrachloroethene.....	25 U	25.00 U	25 U	25 U
1,1,2,2-Tetrachloroethane.....	25 U	25.00 U	25 U	25 U
Toluene.....	25 U	25.00 U	25 U	25 U
Chlorobenzene.....	25 U	25.00 U	25 U	25 U
Ethylbenzene.....	25 U	25.00 U	25 U	25 U
Styrene.....	25 U	25.00 U	25 U	25 U
Total Xylenes.....	25 U	25.00 U	25 U	25 U

Modifiers: U=Analyzed, not detected. J=Present below detection limit. B=Present in blank. NS=Not spiked. %=Percent recovery.

SOLAR POND BOREHOLE SAMPLES

GC/MS DATA SUMMARY

Volatile HAZARDOUS SUBSTANCE LIST COMPOUNDS

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

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Sample Information

RFW Batch ID:	BH87-881-009	BH87-881-020	BH87-881-018	BH87-881-019
Customer ID:	SP038716BR	SP0487004D	SP048702DH	SP048704DH
Matrix:	Soil	Soil	Soil	Soil
Units:	UG/KG	UG/KG	UG/KG	UG/KG
Dilution Factor:	1.0	1.0	1.0	1.0

Surrogate Recovery

Toluene-d8:	88 %	84 %	94 %	86 %
Bromofluorobenzene:	130 %	130 %	116 %	120 %
1,2-Dichloroethane-d4:	118 %	118 %	114 %	120 %

Analytes

Chloromethane.....	50 U	50 U	50 U	50 U
Bromomethane.....	50 U	50 U	50 U	50 U
Vinyl Chloride.....	50 U	50 U	50 U	50 U
Chloroethane.....	50 U	50 U	50 U	50 U
Methylene Chloride.....	25 U	25 U	25 U	25 U
Acetone.....	50 U	50 U	50 U	50 U
Carbon Disulfide.....	25 U	25 U	25 U	25 U
1,1-Dichloroethene.....	25 U	25 U	25 U	25 U
1,1-Dichloroethane.....	25 U	25 U	25 U	25 U
Trans-1,2-Dichloroethene.....	25 U	25 U	25 U	25 U
Chloroform.....	5 J	25 U	25 U	25 U
1,2-Dichloroethane.....	25 U	25 U	25 U	25 U
2-Butanone.....	50 U	50 U	50 U	50 U
1,1,1-Trichloroethane.....	25 U	25 U	25 U	25 U
Carbon Tetrachloride.....	25 U	25 U	25 U	25 U
Vinyl Acetate.....	50 U	50 U	50 U	50 U
Bromodichloromethane.....	25 U	25 U	25 U	25 U
1,2-Dichloropropane.....	25 U	25 U	25 U	25 U
Trans-1,3-Dichloropropene.....	25 U	25 U	25 U	25 U
Trichloroethene.....	25 U	25 U	25 U	25 U
Dibromochloromethane.....	25 U	25 U	25 U	25 U
1,1,2-Trichloroethane.....	25 U	25 U	25 U	25 U
Benzene.....	25 U	25 U	25 U	25 U
cis-1,3-Dichloropropene.....	25 U	25 U	25 U	25 U
2-Chloroethylvinylether.....	50 U	50 U	50 U	50 U
Bromoform.....	25 U	25 U	25 U	25 U
4-Methyl-2-pentanone.....	50 U	50 U	50 U	50 U
2-Hexanone.....	50 U	50 U	50 U	50 U
Tetrachloroethene.....	25 U	25 U	10 J	25 U
1,1,2,2-Tetrachloroethane.....	25 U	25 U	25 U	25 U
Toluene.....	25 U	25 U	25 U	25 U
Chlorobenzene.....	25 U	25 U	25 U	25 U
Ethylbenzene.....	25 U	25 U	25 U	25 U
Styrene.....	25 U	25 U	25 U	25 U
Total Xylenes.....	25 U	25 U	25 U	25 U

Modifiers: U=Analyzed, not detected. J=Present below detection limit. B=Present in blank. NS=Not spiked. %=Percent recovery.

SOLAR POND BOREHOLE SAMPLES
GC/MS DATA SUMMARY
Volatile HAZARDOUS SUBSTANCE LIST COMPOUNDS

RFW Batch Number: Client: ROCKWELL (ROCKY FLATS) Page: 5

Sample Information

RFW Batch ID:	BH87-881-021	BH87-881-025	BH87-881-026	BH87-881-027
Customer ID:	SP048707DH	SP048710DH	SP048712DH	SP048715FS
Matrix:	Soil	Soil	Soil	Soil
Units:	UG/KG	UG/KG	UG/KG	UG/KG
Dilution Factor:	1.0	1.0	1.0	1.0

Surrogate Recovery

Toluene-d8:	84 %	82 %	80 %	86 %
Bromofluorobenzene:	128 %	134 %	134 %	126 %
1,2-Dichloroethane-d4:	122 %	126 %	122 %	120 %

Analytes

Chloromethane.....	50 U	50 U	50 U	50 U
Bromomethane.....	50 U	50 U	50 U	50 U
Vinyl Chloride.....	50 U	50 U	50 U	50 U
Chloroethane.....	50 U	50 U	50 U	50 U
Methylene Chloride.....	25 U	25 U	25 U	25 U
Acetone.....	50 U	50 U	50 U	50 U
Carbon Disulfide.....	25 U	25 U	25 U	25 U
1,1-Dichloroethene.....	25 U	25 U	25 U	25 U
1,1-Dichloroethane.....	25 U	25 U	25 U	25 U
Trans-1,2-Dichloroethene.....	25 U	25 U	25 U	25 U
Chloroform.....	25 U	11 J	10 J	25 U
1,2-Dichloroethane.....	25 U	25 U	25 U	25 U
2-Butanone.....	50 U	50 U	50 U	50 U
1,1,1-Trichloroethane.....	25 U	25 U	25 U	25 U
Carbon Tetrachloride.....	25 U	25 U	25 U	25 U
Vinyl Acetate.....	50 U	50 U	50 U	50 U
Bromodichloromethane.....	25 U	25 U	25 U	25 U
1,2-Dichloropropane.....	25 U	25 U	25 U	25 U
Trans-1,3-Dichloropropene.....	25 U	25 U	25 U	25 U
Trichloroethene.....	25 U	25 U	25 U	25 U
Dibromochloromethane.....	25 U	25 U	25 U	25 U
1,1,2-Trichloroethane.....	25 U	25 U	25 U	25 U
Benzene.....	25 U	25 U	25 U	25 U
cis-1,3-Dichloropropene.....	25 U	25 U	25 U	25 U
2-Chloroethylvinylether.....	50 U	50 U	50 U	50 U
Bromoform.....	25 U	25 U	25 U	25 U
4-Methyl-2-pentanone.....	50 U	50 U	50 U	50 U
2-Hexanone.....	50 U	50 U	50 U	50 U
Tetrachloroethene.....	25 U	25 U	23 J	25 U
1,1,2,2-Tetrachloroethane.....	25 U	25 U	25 U	25 U
Toluene.....	25 U	25 U	25 U	25 U
Chlorobenzene.....	25 U	25 U	25 U	25 U
Ethylbenzene.....	25 U	25 U	25 U	25 U
Styrene.....	25 U	25 U	25 U	25 U
Total Xylenes.....	25 U	25 U	25 U	25 U

Modifiers: U=Analyzed, not detected. J=Present below detection limit. B=Present in blank. NS=Not spiked. %=Percent recovery.

SOLAR POND BOREHOLE SAMPLES
GC/MS DATA SUMMARY
Volatile HAZARDOUS SUBSTANCE LIST COMPOUNDS

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

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Sample Information

RFW Batch ID:	BH87-881-028	BH87-881-029	BH87-881-030	BH87-881-031
Customer ID:	SP048717DH	SP048720DH	SP048722DH	SP048725DH
Matrix:	Soil	Soil	Soil	Soil
Units:	UG/KG	UG/KG	UG/KG	UG/KG
Dilution Factor:	1.0	1.0	1.0	1.0

Surrogate Recovery

Toluene-d8:	80 %	86 %	80 %	82 %
Bromofluorobenzene:	132 %	136 %	134 %	136 %
1,2-Dichloroethane-d4:	126 %	122 %	126 %	120 %

Analytes

Chloromethane.....	50 U	50 U	50 U	50 U
Bromomethane.....	50 U	50 U	50 U	50 U
Vinyl Chloride.....	50 U	50 U	50 U	50 U
Chloroethane.....	50 U	50 U	50 U	50 U
Methylene Chloride.....	25 U	25 U	25 U	25 U
Acetone.....	50 U	50 U	50 U	50 U
Carbon Disulfide.....	25 U	25 U	25 U	25 U
1,1-Dichloroethene.....	25 U	25 U	25 U	25 U
1,1-Dichloroethane.....	25 U	25 U	25 U	25 U
Trans-1,2-Dichloroethene.....	25 U	25 U	25 U	25 U
Chloroform.....	25 U	25 U	25 U	25 U
1,2-Dichloroethane.....	25 U	25 U	25 U	25 U
2-Butanone.....	50 U	50 U	50 U	50 U
1,1,1-Trichloroethane.....	25 U	25 U	25 U	25 U
Carbon Tetrachloride.....	25 U	25 U	25 U	25 U
Vinyl Acetate.....	50 U	50 U	50 U	50 U
Bromodichloromethane.....	25 U	25 U	25 U	25 U
1,2-Dichloropropane.....	25 U	25 U	25 U	25 U
Trans-1,3-Dichloropropene.....	25 U	25 U	25 U	25 U
Trichloroethene.....	25 U	25 U	25 U	25 U
Dibromochloromethane.....	25 U	25 U	25 U	25 U
1,1,2-Trichloroethane.....	25 U	25 U	25 U	25 U
Benzene.....	25 U	25 U	25 U	25 U
cis-1,3-Dichloropropene.....	25 U	25 U	25 U	25 U
2-Chloroethylvinylether.....	50 U	50 U	50 U	50 U
Bromoform.....	25 U	25 U	25 U	25 U
4-Methyl-2-pentanone.....	50 U	50 U	50 U	50 U
2-Hexanone.....	50 U	50 U	50 U	50 U
Tetrachloroethene.....	25 U	25 U	25 U	25 U
1,1,2,2-Tetrachloroethane.....	25 U	25 U	25 U	25 U
Toluene.....	25 U	25 U	25 U	25 U
Chlorobenzene.....	25 U	25 U	25 U	25 U
Ethylbenzene.....	25 U	25 U	25 U	25 U
Styrene.....	25 U	25 U	25 U	25 U
Total Xylenes.....	25 U	25 U	25 U	25 U

Modifiers: U=Analyzed, not detected. J=Present below detection limit. B=Present in blank. NS=Not spiked. %=Percent recovery.

SOLAR POND BOREHOLE SAMPLES
GC/MS DATA SUMMARY
Volatile HAZARDOUS SUBSTANCE LIST COMPOUNDS

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RFW Batch Number: Client: ROCKWELL (ROCKY FLATS) Page: 7

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Sample Information

RFW Batch ID:	BH87-881-032	BH87-881-033	BH87-881-044	BH87-881-053
Customer ID:	SP048727DH	SP048730DH	SP048732DH	SP058700DH
Matrix:	Soil	Soil	Soil	Soil
Units:	UG/KG	UG/KG	UG/KG	UG/KG
Dilution Factor:	1.0-	1.0	1.0	1.0

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Surrogate Recovery

Toluene-d8:	84 %	82 %	70.4 %	72 %
Bromofluorobenzene:	130 %	126 %	68.8 %	72 %
1,2-Dichloroethane-d4:	124 %	122 %	61 %	57.6 %

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Analytes

Chloromethane.....	50 U	50 U	50 U	50 U
Bromomethane.....	50 U	50 U	50 U	50 U
Vinyl Chloride.....	50 U	50 U	50 U	50 U
Chloroethane.....	50 U	50 U	50 U	50 U
Methylene Chloride.....	25 U	25 U	25 U	25 U
Acetone.....	50 U	50 U	50 U	50 U
Carbon Disulfide.....	25 U	25 U	25 U	25 U
1,1-Dichloroethene.....	25 U	25 U	25 U	25 U
1,1-Dichloroethane.....	25 U	25 U	25 U	25 U
Trans-1,2-Dichloroethene.....	25 U	25 U	25 U	25 U
Chloroform.....	25 U	25 U	25 U	25 U
1,2-Dichloroethane.....	25 U	25 U	25 U	25 U
2-Butanone.....	50 U	50 U	50 U	50 U
1,1,1-Trichloroethane.....	25 U	25 U	25 U	25 U
Carbon Tetrachloride.....	25 U	25 U	25 U	25 U
Vinyl Acetate.....	50 U	50 U	50 U	50 U
Bromodichloromethane.....	25 U	25 U	25 U	25 U
1,2-Dichloropropane.....	25 U	25 U	25 U	25 U
Trans-1,3-Dichloropropene.....	25 U	25 U	25 U	25 U
Trichloroethene.....	25 U	25 U	25 U	25 U
Dibromochloromethane.....	25 U	25 U	25 U	25 U
1,1,2-Trichloroethane.....	25 U	25 U	25 U	25 U
Benzene.....	25 U	25 U	25 U	25 U
cis-1,3-Dichloropropene.....	25 U	25 U	25 U	25 U
2-Chloroethylvinylether.....	50 U	50 U	50 U	50 U
Bromoform.....	25 U	25 U	25 U	25 U
4-Methyl-2-pentanone.....	50 U	50 U	50 U	50 U
2-Hexanone.....	50 U	50 U	50 U	50 U
Tetrachloroethene.....	25 U	25 U	25 U	25 U
1,1,2,2-Tetrachloroethane.....	25 U	25 U	25 U	25 U
Toluene.....	25 U	25 U	25 U	25 U
Chlorobenzene.....	25 U	25 U	25 U	25 U
Ethylbenzene.....	25 U	25 U	25 U	25 U
Styrene.....	25 U	25 U	25 U	25 U
Total Xylenes.....	25 U	25 U	25 U	25 U

Modifiers: U=Analyzed, not detected. J=Present below detection limit. B=Present in blank. NS=Not spiked. %=Percent recovery.

SOLAR POND BOREHOLE SAMPLES

GC/MS DATA SUMMARY

Volatile HAZARDOUS SUBSTANCE LIST COMPOUNDS

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

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Sample Information

RFW Batch ID:	BH87-881-054	BH87-881-055	BH87-881-056	BH87-881-055
Customer ID:	SP058702DH	SP058704DH	SP058707DH	SP068702FS
Matrix:	Soil	Soil	Soil	Soil
Units:	UG/KG	UG/KG	UG/KG	UG/KG
Dilution Factor:	1.0	1.0	1.0	1.0

Surrogate Recovery

Toluene-d8:	0.00 %	74 %	89.8 %	87.2 %
Bromofluorobenzene:	0.00 %	72 %	74 %	93.6 %
1,2-Dichloroethane-d4:	0.00 %	82 %	60 %	80 %

Analytes

Chloromethane.....	50 U	50 U	50 U	50 U
Bromomethane.....	50 U	50 U	50 U	50 U
Vinyl Chloride.....	50 U	50 U	50 U	50 U
Chloroethane.....	50 U	50 U	50 U	50 U
Methylene Chloride.....	25 U	25 U	25 U	6.4 J
Acetone.....	50 U	50 U	50 U	50 U
Carbon Disulfide.....	25 U	25 U	25 U	25 U
1,1-Dichloroethene.....	25 U	25 U	25 U	25 U
1,1-Dichloroethane.....	25 U	25 U	25 U	25 U
Trans-1,2-Dichloroethene.....	25 U	25 U	25 U	25 U
Chloroform.....	25 U	25 U	25 U	25 U
1,2-Dichloroethane.....	25 U	25 U	25 U	25 U
2-Butanone.....	50 U	50 U	50 U	50 U
1,1,1-Trichloroethane.....	25 U	25 U	25 U	25 U
Carbon Tetrachloride.....	25 U	25 U	25 U	25 U
Vinyl Acetate.....	50 U	50 U	50 U	50 U
Bromodichloromethane.....	25 U	25 U	25 U	25 U
1,2-Dichloropropane.....	25 U	25 U	25 U	25 U
Trans-1,3-Dichloropropene.....	25 U	25 U	25 U	25 U
Trichloroethene.....	25 U	25 U	25 U	25 U
Dibromochloromethane.....	25 U	25 U	25 U	25 U
1,1,2-Trichloroethane.....	25 U	25 U	25 U	25 U
Benzene.....	25 U	25 U	25 U	25 U
cis-1,3-Dichloropropene.....	25 U	25 U	25 U	25 U
2-Chloroethylvinyl ether.....	50 U	50 U	50 U	50 U
Bromoform.....	25 U	25 U	25 U	25 U
4-Methyl-2-pentanone.....	50 U	50 U	50 U	50 U
2-Hexanone.....	50 U	50 U	50 U	50 U
Tetrachloroethene.....	25 U	25 U	25 U	25 U
1,1,2,2-Tetrachloroethane.....	25 U	25 U	25 U	25 U
Toluene.....	25 U	25 U	25 U	25 U
Chlorobenzene.....	25 U	25 U	25 U	25 U
Ethylbenzene.....	25 U	25 U	25 U	25 U
Styrene.....	25 U	25 U	25 U	25 U
Total Xylenes.....	25 U	25 U	25 U	25 U

Modifiers: U=Analyzed, not detected. J=Present below detection limit. B=Present in blank. NS=Not spiked. %=Percent recovery.

SOLAR POND BOREHOLE SAMPLES
GC/MS DATA SUMMARY
Volatile HAZARDOUS SUBSTANCE LIST COMPOUNDS

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

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Sample Information

RFW Batch ID:	BH87-881-036	BH87-881-037	BH87-881-038	BH87-881-039
Customer ID:	SP068708DH	SP068711DH	SP068713DH	SP068716DH
Matrix:	Soil	Soil	Soil	Soil
Units:	UG/KG	UG/KG	UG/KG	UG/KG
Dilution Factor:	1.0	1.0	1.0	1.0

Surrogate Recovery

Toluene-d8:	116 %	81.6 %	72.8 %	79.2 %
Bromofluorobenzene:	76.8 %	85.6 %	90.4 %	90.4 %
1,2-Dichloroethane-d4:	78.4 %	79.2 %	76.8 %	76.8 %

Analytes

Chloromethane.....	50 U	50 U	50 U	50 U
Bromomethane.....	50 U	50 U	50 U	50 U
Vinyl Chloride.....	50 U	50 U	50 U	50 U
Chloroethane.....	50 U	50 U	50 U	50 U
Methylene Chloride.....	52	25 U	25 U	25 U
Acetone.....	50 U	50 U	50 U	50 U
Carbon Disulfide.....	25 U	25 U	25 U	25 U
1,1-Dichloroethene.....	25 U	25 U	25 U	25 U
1,1-Dichloroethane.....	25 U	25 U	25 U	25 U
Trans-1,2-Dichloroethene.....	25 U	25 U	25 U	25 U
Chloroform.....	25 U	25 U	25 U	25 U
1,2-Dichloroethane.....	25 U	25 U	25 U	25 U
2-Butanone.....	12 J	50 U	50 U	50 U
1,1,1-Trichloroethane.....	25 U	25 U	25 U	25 U
Carbon Tetrachloride.....	25 U	25 U	25 U	25 U
Vinyl Acetate.....	50 U	50 U	50 U	50 U
Bromodichloromethane.....	25 U	25 U	25 U	25 U
1,2-Dichloropropane.....	25 U	25 U	25 U	25 U
Trans-1,3-Dichloropropene.....	25 U	25 U	25 U	25 U
Trichloroethene.....	25 U	25 U	25 U	25 U
Dibromochloromethane.....	25 U	25 U	25 U	25 U
1,1,2-Trichloroethane.....	25 U	25 U	25 U	25 U
Benzene.....	25 U	25 U	25 U	25 U
cis-1,3-Dichloropropene.....	25 U	25 U	25 U	25 U
2-Chloroethylvinylether.....	50 U	50 U	50 U	50 U
Bromoform.....	25 U	25 U	25 U	25 U
4-Methyl-2-pentanone.....	50 U	50 U	50 U	50 U
2-Hexanone.....	50 U	50 U	50 U	50 U
Tetrachloroethene.....	25 U	25 U	25 U	25 U
1,1,2,2-Tetrachloroethane.....	25 U	25 U	25 U	25 U
Toluene.....	25 U	25 U	25 U	25 U
Chlorobenzene.....	25 U	25 U	25 U	25 U
Ethylbenzene.....	25 U	25 U	25 U	25 U
Styrene.....	25 U	25 U	25 U	25 U
Total Xylenes.....	25 U	25 U	25 U	25 U

Modifiers: U=Analyzed, not detected. J=Present below detection limit. B=Present in blank. NS=Not spiked. %=Percent recovery.

SOLAR POND BOREHOLE SAMPLES
GC/MS DATA SUMMARY
Volatile HAZARDOUS SUBSTANCE LIST COMPOUNDS

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

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Sample Information

RFW Batch ID:	BH87-881-040	BH87-881-041	BH87-881-042	BH87-881-043
Customer ID:	SP068718DH	SP068721DH	SP068724DH	SP068726DH
Matrix:	Soil	Soil	Soil	Soil
Units:	UG/KG	UG/KG	UG/KG	UG/KG
Dilution Factor:	1.0	1.0	1.0	1.0

Surrogate Recovery

Toluene-d8:	77.6 %	92 %	77.6 %	79.2 %
BromoFluorobenzene:	88.8 %	88.8 %	0.00 %	94.4 %
1,2-Dichloroethane-d4:	76 %	77.6 %	79.2 %	77.6 %

Analytes

Chloromethane.....	50 U	50 U	50 U	50 U
Bromomethane.....	50 U	50 U	50 U	50 U
Vinyl Chloride.....	50 U	50 U	50 U	50 U
Chloroethane.....	50 U	50 U	50 U	50 U
Methylene Chloride.....	6.80 J	25 U	25 U	25 U
Acetone.....	50 U	50 U	50 U	50 U
Carbon Disulfide.....	25 U	25 U	25 U	25 U
1,1-Dichloroethene.....	25 U	25 U	25 U	25 U
1,1-Dichloroethane.....	25 U	25 U	25 U	25 U
Trans-1,2-Dichloroethene.....	25 U	25 U	25 U	25 U
Chloroform.....	25 U	25 U	25 U	25 U
1,2-Dichloroethane.....	25 U	25 U	25 U	25 U
2-Butanone.....	50 U	50 U	50 U	50 U
1,1,1-Trichloroethane.....	25 U	25 U	25 U	25 U
Carbon Tetrachloride.....	25 U	25 U	25 U	25 U
Vinyl Acetate.....	50 U	50 U	50 U	50 U
Bromodichloromethane.....	25 U	25 U	25 U	25 U
1,2-Dichloropropane.....	25 U	25 U	25 U	25 U
Trans-1,3-Dichloropropene.....	25 U	25 U	25 U	25 U
Trichloroethene.....	25 U	25 U	25 U	25 U
Dibromochloromethane.....	25 U	25 U	25 U	25 U
1,1,2-Trichloroethane.....	25 U	25 U	25 U	25 U
Benzene.....	25 U	25 U	25 U	25 U
cis-1,3-Dichloropropene.....	25 U	25 U	25 U	25 U
2-Chloroethylvinylether.....	50 U	50 U	50 U	50 U
Bromoform.....	25 U	25 U	25 U	25 U
4-Methyl-2-pentanone.....	50 U	50 U	50 U	50 U
2-Hexanone.....	50 U	50 U	50 U	50 U
Tetrachloroethene.....	25 U	25 U	25 U	25 U
1,1,2,2-Tetrachloroethane.....	25 U	25 U	25 U	25 U
Toluene.....	25 U	25 U	25 U	25 U
Chlorobenzene.....	25 U	25 U	25 U	25 U
Ethylbenzene.....	25 U	25 U	25 U	25 U
Styrene.....	25 U	25 U	25 U	25 U
Total Xylenes.....	25 U	25 U	25 U	25 U

Modifiers: U=Analyzed, not detected. J=Present below detection limit. B=Present in blank. NS=Not spiked. %=Percent recovery.

SOLAR POND BOREHOLE SAMPLES
GC/MS DATA SUMMARY
Volatile HAZARDOUS SUBSTANCE LIST COMPOUNDS

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RFW Batch Number: Client: ROCKWELL (ROCKY FLATS) Page: 11

Sample Information

RFW Batch ID:	BH87-881-013	BH87-881-014	BH87-881-023	BH87-881-024
Customer ID:	SP088706CT	SP088709BR	SP098706CT	SP098708BR
Matrix:	Soil	Soil	Soil	Soil
Units:	UG/KG	UG/KG	UG/KG	UG/KG
Dilution Factor:	1.0	1.0	1.0	1.0

Surrogate Recovery

Toluene-d8:	0 %	98 %	82 %	88 %
Bromofluorobenzene:	0 %	106 %	124 %	126 %
1,2-Dichloroethane-d4:	0 %	124 %	122 %	120 %

Analytes

Chloromethane.....	50 U	50 U	50 U	50 U
Bromomethane.....	50 U	50 U	50 U	50 U
Vinyl Chloride.....	50 U	50 U	50 U	50 U
Chloroethane.....	50 U	50 U	50 U	50 U
Methylene Chloride.....	25 U	25 U	25 U	25 U
Acetone.....	50 U	50 U	50 U	50 U
Carbon Disulfide.....	25 U	25 U	25 U	25 U
1,1-Dichloroethene.....	25 U	25 U	25 U	25 U
1,1-Dichloroethane.....	25 U	25 U	25 U	25 U
Trans-1,2-Dichloroethene.....	25 U	25 U	25 U	25 U
Chloroform.....	25 U	10 J	25 U	25 U
1,2-Dichloroethane.....	25 U	25 U	25 U	25 U
2-Butanone.....	50 U	50 U	50 U	50 U
1,1,1-Trichloroethane.....	25 U	25 U	25 U	25 U
Carbon Tetrachloride.....	25 U	25 U	25 U	25 U
Vinyl Acetate.....	50 U	50 U	50 U	50 U
Bromodichloromethane.....	25 U	25 U	25 U	25 U
1,2-Dichloropropane.....	25 U	25 U	25 U	25 U
Trans-1,3-Dichloropropene.....	25 U	25 U	25 U	25 U
Trichloroethene.....	25 U	25 U	25 U	25 U
Dibromochloromethane.....	25 U	25 U	25 U	25 U
1,1,2-Trichloroethane.....	25 U	25 U	25 U	25 U
Benzene.....	25 U	25 U	25 U	25 U
cis-1,3-Dichloropropene.....	25 U	25 U	25 U	25 U
2-Chloroethylvinylether.....	50 U	50 U	50 U	50 U
Bromoform.....	25 U	25 U	25 U	25 U
4-Methyl-2-pentanone.....	50 U	50 U	50 U	50 U
2-Hexanone.....	50 U	50 U	50 U	50 U
Tetrachloroethene.....	25 U	25 U	25 U	25 U
1,1,2,2-Tetrachloroethane.....	25 U	25 U	25 U	25 U
Toluene.....	25 U	25 U	25 U	25 U
Chlorobenzene.....	25 U	25 U	25 U	25 U
Ethylbenzene.....	25 U	25 U	25 U	25 U
Styrene.....	25 U	25 U	25 U	25 U
Total Xylenes.....	25 U	25 U	25 U	25 U

Modifiers: U=Analyzed, not detected. J=Present below detection limit. B=Present in blank. NS=Not spiked. %=Percent recovery.

SOLAR POND BOREHOLE SAMPLES
GC/MS DATA SUMMARY
Volatile HAZARDOUS SUBSTANCE LIST COMPOUNDS

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

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Sample Information

RFW Batch ID:	BH87-881-045	BH87-881-034	BH87-881-046	BH87-881-047
Customer ID:	SP11870008	SP118708DH	SP118711DH	SP118714DH
Matrix:	Soil	Soil	Soil	Soil
Units:	UG/KG	UG/KG	UG/KG	UG/KG
Dilution Factor:	1.0	1.0	1.0	1.0

Surrogate Recovery

Toluene-d8:	78 %	86 %	66.6 %	74 %
Bromofluorobenzene:	74 %	126 %	63 %	82 %
1,2-Dichloroethane-d4:	66.2 %	126 %	64.6 %	50.2 %

Analytes

Chloromethane.....	50 U	50 U	50 U	50 U
Bromomethane.....	50 U	50 U	50 U	50 U
Vinyl Chloride.....	50 U	50 U	50 U	50 U
Chlorethane.....	50 U	50 U	50 U	50 U
Methylene Chloride.....	25 U	25 U	25 U	25 U
Acetone.....	50 U	50 U	50 U	50 U
Carbon Disulfide.....	25 U	25 U	25 U	25 U
1,1-Dichloroethene.....	25 U	25 U	25 U	25 U
1,1-Dichloroethane.....	25 U	25 U	25 U	25 U
Trans-1,2-Dichloroethene.....	25 U	25 U	25 U	25 U
Chloroform.....	25 U	25 U	25 U	25 U
1,2-Dichloroethane.....	25 U	25 U	25 U	25 U
2-Butanone.....	50 U	50 U	50 U	29.3 J
1,1,1-Trichloroethane.....	25 U	25 U	25 U	25 U
Carbon Tetrachloride.....	25 U	25 U	25 U	25 U
Vinyl Acetate.....	50 U	50 U	50 U	50 U
Bromodichloromethane.....	25 U	25 U	25 U	25 U
1,2-Dichloropropane.....	25 U	25 U	25 U	25 U
Trans-1,3-Dichloropropene.....	25 U	25 U	25 U	25 U
Trichloroethene.....	25 U	25 U	25 U	25 U
Dibromochloromethane.....	25 U	25 U	25 U	25 U
1,1,2-Trichloroethane.....	25 U	25 U	25 U	25 U
Benzene.....	25 U	25 U	25 U	25 U
cis-1,3-Dichloropropene.....	25 U	25 U	25 U	25 U
2-Chloroethylvinylether.....	50 U	50 U	50 U	50 U
Bromoform.....	25 U	25 U	25 U	25 U
4-Methyl-2-pentanone.....	50 U	50 U	50 U	50 U
2-Hexanone.....	50 U	50 U	50 U	50 U
Tetrachloroethene.....	25 U	25 U	25 U	25 U
1,1,2,2-Tetrachloroethane.....	25 U	25 U	25 U	25 U
Toluene.....	25 U	25 U	25 U	25 U
Chlorobenzene.....	25 U	25 U	25 U	25 U
Ethylbenzene.....	25 U	25 U	25 U	25 U
Styrene.....	25 U	25 U	25 U	25 U
Total Xylenes.....	25 U	25 U	25 U	25 U

Modifiers: U=Analyzed, not detected. J=Present below detection limit. B=Present in blank. NS=Not spiked. %=Percent recovery.

SOLAR POND BOREHOLE SAMPLES
GC/MS DATA SUMMARY
Volatile HAZARDOUS SUBSTANCE LIST COMPOUNDS

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

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Sample Information

RFW Batch ID:	BH87-881-048	BH87-881-049	BH87-881-050	BH87-881-051
Customer ID:	SP118716DH	SP118719DH	SP118721DH	SP118724DH
Matrix:	Soil	Soil	Soil	Soil
Units:	UG/KG	UG/KG	UG/KG	UG/KG
Dilution Factor:	1.0	1.0	1.0	1.0

Surrogate Recovery

Toluene-d8:	68 %	80.4 %	78 %	68 %
Bromofluorobenzene:	74 %	62.4 %	72 %	66 %
1,2-Dichloroethane-d4:	60.4 %	59.8 %	58.2 %	63 %

Analytes

Chloromethane.....	50 U	50 U	50 U	50 U
Bromomethane.....	50 U	50 U	50 U	50 U
Vinyl Chloride.....	50 U	50 U	50 U	50 U
Chloroethane.....	50 U	50 U	50 U	50 U
Methylene Chloride.....	25 U	25 U	25 U	25 U
Acetone.....	50 U	50 U	50 U	50 U
Carbon Disulfide.....	25 U	25 U	25 U	25 U
1,1-Dichloroethene.....	25 U	25 U	25 U	25 U
1,1-Dichloroethane.....	25 U	25 U	25 U	25 U
Trans-1,2-Dichloroethene.....	25 U	25 U	25 U	25 U
Chloroform.....	25 U	25 U	25 U	25 U
1,2-Dichloroethane.....	25 U	25 U	25 U	25 U
2-Butanone.....	50 U	50 U	50 U	50 U
1,1,1-Trichloroethane.....	25 U	25 U	25 U	25 U
Carbon Tetrachloride.....	25 U	25 U	25 U	25 U
Vinyl Acetate.....	50 U	50 U	50 U	50 U
Bromodichloromethane.....	25 U	25 U	25 U	25 U
1,2-Dichloropropane.....	25 U	25 U	25 U	25 U
Trans-1,3-Dichloropropene.....	25 U	25 U	25 U	25 U
Trichloroethene.....	25 U	25 U	25 U	25 U
Dibromochloromethane.....	25 U	25 U	25 U	25 U
1,1,2-Trichloroethane.....	25 U	25 U	25 U	25 U
Benzene.....	25 U	25 U	25 U	25 U
cis-1,3-Dichloropropene.....	25 U	25 U	25 U	25 U
2-Chloroethylvinylether.....	50 U	50 U	50 U	50 U
Bromoform.....	25 U	25 U	25 U	25 U
4-Methyl-2-pentanone.....	50 U	50 U	50 U	50 U
2-Hexanone.....	50 U	50 U	50 U	50 U
Tetrachloroethene.....	25 U	25 U	25 U	25 U
1,1,2,2-Tetrachloroethane.....	25 U	25 U	25 U	25 U
Toluene.....	25 U	25 U	25 U	25 U
Chlorobenzene.....	25 U	25 U	25 U	25 U
Ethylbenzene.....	25 U	25 U	25 U	25 U
Styrene.....	25 U	25 U	25 U	25 U
Total Xylenes.....	25 U	25 U	25 U	25 U

Modifiers: U=Analyzed, not detected. J=Present below detection limit. B=Present in blank. NS=Not spiked. %=Percent recovery.

SOLAR POND BOREHOLE SAMPLES
GC/MS DATA SUMMARY
Volatile HAZARDOUS SUBSTANCE LIST COMPOUNDS

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RFW Batch Number: Client: ROCKWELL (ROCKY FLATS)

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Sample Information

RFW Batch ID: BH87-881-052
Customer ID: SP118726DH
Matrix: Soil
Units: UG/KG
Dilution Factor: 1.0

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Surrogate Recovery

Toluene-d8:	74 %
Bromofluorobenzene:	58 %
1,2-Dichloroethane-d4:	61.2 %

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Analytes

Chloromethane.....	50 U
Bromomethane.....	50 U
Vinyl Chloride.....	50 U
Chloroethane.....	50 U
Methylene Chloride.....	25 U
Acetone.....	50 U
Carbon Disulfide.....	25 U
1,1-Dichloroethene.....	25 U
1,1-Dichloroethane.....	25 U
Trans-1,2-Dichloroethene.....	25 U
Chloroform.....	25 U
1,2-Dichloroethane.....	25 U
2-Butanone.....	50 U
1,1,1-Trichloroethane.....	25 U
Carbon Tetrachloride.....	25 U
Vinyl Acetate.....	50 U
Bromodichloromethane.....	25 U
1,2-Dichloropropane.....	25 U
Trans-1,3-Dichloropropene.....	25 U
Trichloroethene.....	25 U
Dibromochloromethane.....	25 U
1,1,2-Trichloroethane.....	25 U
Benzene.....	25 U
cis-1,3-Dichloropropene.....	25 U
2-Chloroethylvinylether.....	50 U
Bromoform.....	25 U
4-Methyl-2-pentanone.....	50 U
2-Hexanone.....	50 U
Tetrachloroethene.....	25 U
1,1,2,2-Tetrachloroethane.....	25 U
Toluene.....	25 U
Chlorobenzene.....	25 U
Ethylbenzene.....	25 U
Styrene.....	25 U
Total Xylenes.....	25 U

Modifiers: U=Analyzed, not detected. J=Present below detection limit. B=Present in blank. NS=Not spiked. %=Percent recovery.

WESTON ANALYTICS: Volatiles

May 26, 1988

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List: Customer ID's: All

RFW Batch ID	Customer ID	Laboratory ID
8608-052-026	C188608860	26
8608-052-029	C188608861	29
8608-056-034	C188608862	34
8609-022-019	C208609860	19
8609-022-022	C208609861	22
8609-022-025	C208609862	25
8609-022-028	C228609860	28
8609-022-031	C228609861	31
8609-022-034	C228609862	34
8609-022-007	C258608860	07
8609-022-001	C258608861	01
8609-022-004	C258608862	04
8609-022-010	C278609860	10
8609-022-013	C278609861	13
8609-022-016	C278609862	16

SOLAR POND CORE SAMPLES
GC/MS DATA SUMMARY
Volatile HAZARDOUS SUBSTANCE LIST COMPOUNDS

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

Page: 1

Sample Information

RFW Batch ID:	8608-052-026	8608-052-029	8608-056-034	8609-022-019
Customer ID:	C188608860	C188608861	C188608862	C208609860
Matrix:	Soil	Soil	Soil	Soil
Units:	UG/KG	UG/KG	UG/KG	UG/KG
Dilution Factor:	1.08	1.12	1.14	1.1

Surrogate Recovery

Toluene-d8:	96 %	96 %	100 %	102 %
Bromofluorobenzene:	99 %	97 %	84 %	98 %
1,2-Dichloroethane-d4:	91 %	91 %	70 %	96 %

Analytes

Chloromethane.....	10 U	10 U	11 U	11 U
Bromomethane.....	10 U	10 U	11 U	11 U
Vinyl Chloride.....	10 U	10 U	11 U	11 U
Chloroethane.....	10 U	10 U	11 U	11 U
Methylene Chloride.....	24	10	10	2 J
Acetone.....	72	110	165 B	35 B
Carbon Disulfide.....	5 U	2 J	6 U	5 U
1,1-Dichloroethene.....	5 U	5 U	6 U	5 U
1,1-Dichloroethane.....	5 U	5 U	6 U	4 J
Trans-1,2-Dichloroethene.....	5 U	5 U	2 J	5 U
Chloroform.....	5 U	5 U	6 U	5 U
1,2-Dichloroethane.....	5 U	5 U	6 U	5 U
2-Butanone.....	10 U	10 U	11 U	11 U
1,1,1-Trichloroethane.....	5 U	5 U	2 J	5 U
Carbon Tetrachloride.....	5 U	5 U	6 U	5 U
Vinyl Acetate.....	10 U	10 U	11 U	11 U
Bromodichloromethane.....	5 U	5 U	6 U	5 U
1,2-Dichloropropane.....	5 U	5 U	6 U	5 U
Trans-1,3-Dichloropropene.....	5 U	5 U	6 U	5 U
Trichloroethene.....	5 U	5 U	7 J	5 U
Dibromochloromethane.....	5 U	5 U	6 U	5 U
1,1,2-Trichloroethane.....	5 U	5 U	6 U	5 U
Benzene.....	5 U	5 U	6 U	5 U
cis-1,3-Dichloropropene.....	5 U	5 U	6 U	5 U
2-Chloroethylvinylether.....	10 U	10 U	11 U	11 U
Bromoform.....	5 U	5 U	5 U	5 U
4-Methyl-2-pentanone.....	10 U	10 U	11 U	11 U
2-Hexanone.....	10 U	10 U	11 U	11 U
Tetrachloroethene.....	5 U	5 U	6 U	5 U
1,1,2,2-Tetrachloroethane.....	5 U	5 U	6 U	5 U
Toluene.....	5 U	5 U	2 BJ	1 J
Chlorobenzene.....	5 U	5 U	6 U	5 U
Ethylbenzene.....	5 U	5 U	6 U	5 U
Styrene.....	5 U	5 U	6 U	5 U
Total Xylenes.....	5 U	5 U	6 U	5 U

Modifiers: U=Analyzed, not detected. J=Present below detection limit. B=Present in blank. NS=Not spiked. %=Percent recovery.

SOLAR POND CORE SAMPLES
GC/MS DATA SUMMARY
Volatile HAZARDOUS SUBSTANCE LIST COMPOUNDS

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

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Sample Information

RFW Batch ID:	8609-022-022	8609-022-025	8609-022-028	8609-022-031
Customer ID:	C208609861	C208609862	C228609860	C228609861
Matrix:	Soil	Soil	Soil	Soil
Units:	UG/KG	UG/KG	UG/KG	UG/KG
Dilution Factor:	1.1	1.2	1.1	1.1

Surrogate Recovery

Toluene-d8:	102 %	98 %	104 %	102 %
BromoFluorobenzene:	100 %	102 %	100 %	102 %
1,2-Dichloroethane-d4:	94 %	98 %	106 %	100 %

Analytes

Chloromethane.....	11 U	12 U	11 U	11 U
Bromomethane.....	11 U	12 U	11 U	11 U
Vinyl Chloride.....	11 U	12 U	11 U	11 U
Chloroethane.....	11 U	12 U	11 U	11 U
Methylene Chloride.....	7 J	8 J	2 J	2 J
Acetone.....	39 B	124 B	31 B	44 B
Carbon Disulfide.....	5 U	6 U	5 U	5 U
1,1-Dichloroethene.....	5 U	6 U	5 U	5 U
1,1-Dichloroethane.....	25	43	3 J	6
Trans-1,2-Dichloroethene.....	5 U	6 U	5 U	5 U
Chloroform.....	5 U	6 U	5 U	5 U
1,2-Dichloroethane.....	5 U	6 U	5 U	5 U
2-Butanone.....	11 U	12 U	21 B	13 B
1,1,1-Trichloroethane.....	3 J	5 J	5 U	5 U
Carbon Tetrachloride.....	5 U	6 U	5 U	5 U
Vinyl Acetate.....	11 U	12 U	11 U	11 U
Bromodichloromethane.....	5 U	6 U	5 U	5 U
1,2-Dichloropropane.....	5 U	6 U	5 U	5 U
Trans-1,3-Dichloropropene.....	5 U	6 U	5 U	5 U
Trichloroethene.....	5 U	6 U	5 U	5 U
Dibromochloromethane.....	5 U	6 U	5 U	5 U
1,1,2-Trichloroethane.....	5 U	6 U	5 U	5 U
Benzene.....	5 U	6 U	5 U	5 U
cis-1,3-Dichloropropene.....	5 U	6 U	5 U	5 U
2-Chloroethylvinylether.....	11 U	12 U	11 U	11 U
Bromoform.....	5 U	6 U	5 U	5 U
4-Methyl-2-pentanone.....	10 U	12 U	11 U	11 U
2-Hexanone.....	10 U	12 U	11 U	11 U
Tetrachloroethene.....	5 U	6 U	5 U	5 U
1,1,2,2-Tetrachloroethane.....	5 U	6 U	5 U	5 U
Toluene.....	2 J	2 J	1 J	5 U
Chlorobenzene.....	5 U	6 U	5 U	5 U
Ethylbenzene.....	5 U	6 U	5 U	5 U
Styrene.....	5 U	6 U	5 U	5 U
Total Xylenes.....	4 J	5 J	4 J	5 U

Modifiers: U=Analyzed, not detected. J=Present below detection limit. B=Present in blank. NS=Not spiked. %=Percent recovery.

SOLAR POND CORE SAMPLES
GC/MS DATA SUMMARY
Volatile HAZARDOUS SUBSTANCE LIST COMPOUNDS

RFW Batch Number: Client: ROCKWELL (ROCKY FLATS) Page: 3

Sample Information

RFW Batch ID:	8609-022-034	8609-022-007	8609-022-001	8609-022-004
Customer ID:	C228609862	C258608860	C258608861	C258608862
Matrix:	Soil	Soil	Soil	Soil
Units:	UG/KG	UG/KG	UG/KG	UG/KG
Dilution Factor:	1.1	1.1	1.2	1.08

Surrogate Recovery

Toluene-d8:	102 %	106 %	98 %	100 %
Bromofluorobenzene:	102 %	94 %	100 %	100 %
1,2-Dichloroethane-d4:	100 %	98 %	88 %	94 %

Analytes

Chloromethane.....	11 U	11 U	12 U	11 U
Bromomethane.....	11 U	11 U	12 U	11 U
Vinyl Chloride.....	11 U	11 U	12 U	11 U
Chloroethane.....	11 U	10 U	12 U	11 U
Methylene Chloride.....	2 J	9	6 J	5 J
Acetone.....	45 B	46 B	89 BJ	30 BJ
Carbon Disulfide.....	5 U	5 U	6 U	5 U
1,1-Dichloroethene.....	5 U	5 U	6 U	5 U
1,1-Dichloroethane.....	2 J	42	16	13
Trans-1,2-Dichloroethene.....	5 U	5 U	6 U	5 U
Chloroform.....	5 U	5 U	6 U	5 U
1,2-Dichloroethane.....	5 U	5 U	6 U	5 U
2-Butanone.....	11 U	11 U	12 U	11 U
1,1,1-Trichloroethane.....	5 U	21	2 J	5 U
Carbon Tetrachloride.....	5 U	5 U	6 U	5 U
Vinyl Acetate.....	11 U	11 U	12 U	11 U
Bromodichloromethane.....	5 U	5 U	6 U	5 U
1,2-Dichloropropane.....	5 U	5 U	6 U	5 U
Trans-1,3-Dichloropropene.....	5 U	5 U	6 U	5 U
Trichloroethene.....	5 U	5 U	6 U	5 U
Dibromochloromethane.....	5 U	5 U	6 U	5 U
1,1,2-Trichloroethane.....	5 U	5 U	6 U	5 U
Benzene.....	5 U	1 J	6 U	5 U
cis-1,3-Dichloropropene.....	5 U	5 U	6 U	5 U
2-Chloroethylvinylether.....	11 U	11 U	12 U	11 U
Bromoform.....	5 U	5 U	6 U	5 U
4-Methyl-2-pentanone.....	11 U	11 U	12 U	11 U
2-Hexanone.....	11 U	11 U	12 U	1 J
Tetrachloroethene.....	5 U	5 U	6 U	5 U
1,1,2,2-Tetrachloroethane.....	5 U	5 U	6 U	5 U
Toluene.....	5 U	8 B	1 BJ	1 BJ
Chlorobenzene.....	5 U	5 U	6 U	5 U
Ethylbenzene.....	5 U	2 J	6 U	5 U
Styrene.....	5 U	5 U	6 U	5 U
Total Xylenes.....	5 U	11	6 U	5 U

Modifiers: U=Analyzed, not detected. J=Present below detection limit. B=Present in blank. NS=Not spiked. %=Percent recovery.

SOLAR POND CORE SAMPLES
GC/MS DATA SUMMARY
Volatile HAZARDOUS SUBSTANCE LIST COMPOUNDS

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

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Sample Information

RFW Batch ID:	8609-022-010	8609-022-013	8609-022-016
Customer ID:	C278609860	C278609861	C278609862
Matrix:	Soil	Soil	Soil
Units:	UG/KG	UG/KG	UG/KG
Dilution Factor:	1.0	1.20	1.10

Surrogate Recovery

Toluene-d8:	100 %	104 %	102 %
Bromofluorobenzene:	100 %	98 %	100 %
1,2-Dichloroethane-d4:	96 %	90 %	98 %

Analytes

Chloromethane.....	10 U	12 U	11 U
Bromomethane.....	10 U	12 U	11 U
Vinyl Chloride.....	10 U	12 U	11 U
Chloroethane.....	10 U	12 U	11 U
Methylene Chloride.....	2 J	12	10
Acetone.....	49 BJ	41 B	52 B
Carbon Disulfide.....	5 U	6 U	5 U
1,1-Dichloroethene.....	5 U	6 U	5 U
1,1-Dichloroethane.....	3 J	49	35
Trans-1,2-Dichloroethene.....	5 U	6 U	5 U
Chloroform.....	5 U	6 U	5 U
1,2-Dichloroethane.....	5 U	6 U	5 U
2-Butanone.....	10 U	12	11 U
1,1,1-Trichloroethane.....	5 U	6 J	4 J
Carbon Tetrachloride.....	5 U	6 U	5 U
Vinyl Acetate.....	10 U	12 U	11 U
Bromodichloromethane.....	5 U	6 U	5 U
1,2-Dichloropropane.....	5 U	6 U	5 U
Trans-1,3-Dichloropropene.....	5 U	6 U	5 U
Trichloroethene.....	5 U	6 U	5 U
Dibromochloromethane.....	5 U	6 U	5 U
1,1,2-Trichloroethane.....	5 U	6 U	5 U
Benzene.....	5 U	6 U	5 U
cis-1,3-Dichloropropene.....	5 U	6 U	5 U
2-Chloroethylvinylether.....	10 U	12 U	11 U
Bromoform.....	5 U	6 U	5 U
4-Methyl-2-pentanone.....	10 U	12 U	11 U
2-Hexanone.....	10 U	12 U	11 U
Tetrachloroethene.....	5 U	6 U	5 U
1,1,2,2-Tetrachloroethane.....	5 U	6 U	5 U
Toluene.....	5 U	2 BJ	2 BJ
Chlorobenzene.....	5 U	6 U	5 U
Ethylbenzene.....	5 U	6 U	5 U
Styrene.....	5 U	6 U	5 U
Total Xylenes.....	5 U	0 U	2 J

Modifiers: U=Analyzed, not detected. J=Present below detection limit. B=Present in blank. NS=Not spiked. % =Percent recovery.

SEMIVOLATILES

SOLAR POND CLOSURE CHARACTERIZATION REPORT
ROCKY FLATS PLANT, GOLDEN, COLORADO

1 JULY 1988

APPENDICES

WESTON ANALYTICS: Semivolatiles

May 26, 1988

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List: Customer ID's: All

RFW Batch ID	Customer ID	Laboratory ID
8608-053-006	C188608860	
8608-053-007	C188608861	
8608-056-009	C188608862	
8609-022-009	C208609860	
8609-022-010	C208609861	
8609-022-011	C208609862	
8609-022-003	C228609860	
8609-022-004	C228609861	
8609-022-005	C228609862	
8609-022-012	C258608860	
8609-022-001	C258608861	
8609-022-002	C258608862	
8609-022-006	C278609860	
8609-022-007	C278609861	
8609-022-008	C278609862	

SOLAR POND CORE SAMPLES
GC/MS DATA SUMMARY
Semivolatile HAZARDOUS SUBSTANCE LIST COMPOUNDS

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

Page: 1

Sample Information

RFW Batch ID:	8608-053-006	8608-053-007	8608-056-009	8609-022-009
Customer ID:	C188608860	C188608861	C188608862	C208609860
Matrix:	Soil	Soil	Soil	Soil
Units:	UG/KG	UG/KG	UG/KG	UG/KG
Dilution Factor:	39	41	39	41

Surrogate Recovery

2-Fluorophenol:	38 %	48 %	52 %	61 %
Phenol-d5:	34 %	46 %	62 %	64 %
2,4,6-Br ₃ -Phenol:	33 %	45 %	44 %	58 %
Nitrobenzene-d5:	34 %	44 %	34 %	60 %
2-Fluorobiphenyl:	38 %	56 %	40 %	78 %
p-Terphenyl-d14:	24 %	42 %	44 %	58 %

Analytes

Phenol.....	390 U	410 U	390 U	410 U
bis(2-Chloroethyl)Ether.....	390 U	410 U	390 U	410 U
2-Chlorophenol.....	390 U	410 U	390 U	410 U
1,3-Dichlorobenzene.....	390 U	410 U	390 U	410 U
1,4-Dichlorobenzene.....	390 U	410 U	390 U	410 U
Benzyl Alcohol.....	390 U	410 U	390 U	410 U
1,2-Dichlorobenzene.....	390 U	410 U	390 U	410 U
2-Methylphenol.....	390 U	410 U	390 U	410 U
bis(2-Chloroisopropyl)Ether.....	390 U	410 U	390 U	410 U
4-Methylphenol.....	390 U	410 U	390 U	410 U
N-Nitroso-di-n-propylamine.....	390 U	410 U	390 U	410 U
Hexachloroethane.....	390 U	410 U	390 U	410 U
Nitrobenzene.....	390 U	410 U	390 U	410 U
Isophorone.....	390 U	410 U	390 U	410 U
2-Nitrophenol.....	390 U	410 U	390 U	410 U
2,4-Dimethylphenol.....	390 U	410 U	390 U	410 U
Benzoic Acid.....	2000 U	2000 U	2000 U	2050 U
bis(2-Chloroethoxy)Methane.....	390 U	410 U	390 U	410 U
2,4-Dichlorophenol.....	390 U	410 U	390 U	410 U
1,2,4-Trichlorobenzene.....	390 U	410 U	390 U	410 U
Naphthalene.....	390 U	410 U	390 U	410 U
4-Chloroaniline.....	390 U	410 U	390 U	410 U
Hexachlororbutadiene.....	390 U	410 U	390 U	410 U
4-Chloro-3-methylphenol.....	390 U	410 U	390 U	410 U
2-Methylnaphthalene.....	390 U	410 U	390 U	410 U
Hexachlorocyclopentadiene.....	390 U	410 U	390 U	410 U
2,4,6-Trichlorophenol.....	390 U	410 U	390 U	410 U
2,4,5-Trichlorophenol.....	2000 U	2000 U	2000 U	2050 U
2-Chloronaphthalene.....	390 U	410 U	390 U	410 U
2-Nitroaniline.....	2000 U	2000 U	2000 U	2050 U
Dimethyl Phthalate.....	390 U	410 U	390 U	410 U
Acenaphthylene.....	390 U	410 U	390 U	410 U

Modifiers: U=Analyzed, not detected. J=Present below detection limit. B=Present in blank. NS=Not spiked. %=Percent recovery.

SOLAR POND CORE SAMPLES
GC/MS DATA SUMMARY
Semivolatile HAZARDOUS SUBSTANCE LIST COMPOUNDS

===== RFW Batch Number: Client: ROCKWELL (ROCKY FLATS) ===== Page: 2

Sample Information

RFW Batch ID:	8608-053-006	8608-053-007	8608-056-009	8609-022-009
Customer ID:	C188608860	C188608861	C188608862	C208609860
Matrix:	Soil	Soil	Soil	Soil
Units:	UG/KG	UG/KG	UG/KG	UG/KG
Dilution Factor:	39	41	39	41

Analytes

3-Nitroaniline.....	2000 U	2000 U	2000 U	2050 U
Acenaphthene.....	390 U	410 U	390 U	410 U
2,4-Dinitrophenol.....	2000 U	2000 U	2000 U	2050 U
4-Nitrophenol.....	2000 U	2000 U	2000 U	2050 U
Dibenzofuran.....	390 U	410 U	390 U	410 U
2,4-Dinitrotoluene.....	390 U	410 U	390 U	410 U
2,6-Dinitrotoluene.....	390 U	410 U	390 U	410 U
Diethylphthalate.....	390 U	410 U	390 U	410 U
4-Chlorophenyl-phenylether.....	390 U	410 U	390 U	40 J
Fluorene.....	390 U	410 U	390 U	410 U
4-Nitroaniline.....	2000 U	2000 U	2000 U	2050 U
4,6-Dinitro-2-methylphenol.....	2000 U	2000 U	2000 U	2050 U
N-Nitrosodiphenylamine.....	550 B	860 B	390 B	160 JB
4-Bromophenyl-phenylether.....	390 U	410 U	390 U	410 U
Hexachlorobenzene.....	390 U	410 U	390 U	410 U
Pentachlorophenol.....	2000 U	2000 U	2000 U	2050 U
Phenanthrene.....	390 U	410 U	390 U	410 U
Anthracene.....	390 U	410 U	390 U	80 J
di-n-Butyl Phthalate.....	160 JB	410 B	470 B	530 B
Fluoranthene.....	390 U	410 U	390 U	450
Pyrene.....	390 U	410 U	390 U	370 J
Butyl Benzyl Phthalate.....	390 U	410 U	390 U	410 U
3,3'-Dichlorobenzidine.....	780 U	820 U	780 U	820 U
Benzo(a)Anthracene.....	390 U	410 U	390 U	120 J
bis(2-Ethylhexyl)Phthalate.....	120 JB	41 JB	78 JB	410 U
Chrysene.....	390 U	410 U	390 U	120 J
di-n-Octyl Phthalate.....	390 U	200 J	78 J	410 U
Benzo(b)Fluoranthene.....	390 U	410 U	390 U	410 U
Benzo(k)Fluoranthene.....	390 U	410 U	390 U	160 J
Benzo(a)Pyrene.....	390 U	410 U	390 U	120 J
Indeno(1,2,3-cd)Pyrene.....	390 U	410 U	390 U	80 J
Dibenz(a,h)Anthracene.....	390 U	410 U	390 U	410 U
Benzo(g,h,i)Perylene.....	390 U	410 U	390 U	410 U

Modifiers: U=Analyzed, not detected. J=Present below detection limit. B=Present in blank. NS=Not spiked. %=%Percent recovery.

SOLAR POND CORE SAMPLES

GC/MS DATA SUMMARY

Semivolatile HAZARDOUS SUBSTANCE LIST COMPOUNDS

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

Page: 3

Sample Information

RFW Batch ID:	8609-022-010	8609-022-011	8609-022-003	8609-022-004
Customer ID:	C208609861	C208609862	C228609860	C228609861
Matrix:	Soil	Soil	Soil	Soil
Units:	UG/KG	UG/KG	UG/KG	UG/KG
Dilution Factor:	44	45	41	42

Surrogate Recovery

2-Fluorophenol:	37 %	48 %	61 %	58 %
Phenol-d5:	39 %	49 %	60 %	58 %
2,4,6-Br3-Phenol:	36 %	48 %	67 %	57 %
Nitrobenzene-d5:	36 %	47 %	58 %	58 %
2-Fluorobiphenyl:	47 %	60 %	76 %	71 %
p-Terphenyl-d14:	38 %	42 %	64 %	60 %

Analytes

Phenol.....	440 U	450 U	410 U	420 U
bis(2-Chloroethyl)Ether.....	440 U	450 U	410 U	420 U
2-Chlorophenol.....	440 U	450 U	410 U	420 U
1,3-Dichlorobenzene.....	440 U	450 U	410 U	420 U
1,4-Dichlorobenzene.....	440 U	450 U	410 U	420 U
Benzyl Alcohol.....	440 U	450 U	410 U	420 U
1,2-Dichlorobenzene.....	440 U	450 U	410 U	420 U
2-Methylphenol.....	440 U	450 U	410 U	420 U
bis(2-Chloroisopropyl)Ether.....	440 U	450 U	410 U	420 U
4-Methylphenol.....	440 U	450 U	410 U	420 U
N-Nitroso-di-n-propylamine.....	440 U	450 U	410 U	420 U
Hexachloroethane.....	440 U	450 U	410 U	420 U
Nitrobenzene.....	440 U	450 U	410 U	420 U
Isophorone.....	440 U	450 U	410 U	420 U
2-Nitrophenol.....	440 U	450 U	410 U	420 U
2,4-Dimethylphenol.....	440 U	450 U	410 U	420 U
Benzoic Acid.....	2200 U	2250 U	2050 U	2100 U
bis(2-Chloroethoxy)Methane.....	440 U	450 U	2050 U	420 U
2,4-Dichlorophenol.....	440 U	450 U	410 U	420 U
1,2,4-Trichlorobenzene.....	440 U	450 U	410 U	420 U
Naphthalene.....	440 U	450 U	410 U	420 U
4-Chloroaniline.....	440 U	450 U	410 U	420 U
Hexachlororbutadiene.....	440 U	450 U	410 U	420 U
4-Chloro-3-methylphenol.....	440 U	450 U	410 U	420 U
2-Methylnaphthalene.....	440 U	450 U	410 U	420 U
Hexachlorocyclopentadiene.....	440 U	450 U	410 U	420 U
2,4,6-Trichlorophenol.....	440 U	450 U	410 U	420 U
2,4,5-Trichlorophenol.....	2200 U	2250 U	2050 U	2100 U
2-Chloronaphthalene.....	440 U	450 U	410 U	420 U
2-Nitroaniline.....	2200 U	2250 U	2050 U	2100 U
Dimethyl Phthalate.....	440 U	450 U	410 U	420 U
Acenaphthylene.....	440 U	450 U	410 U	420 U

Modifiers: U=Analyzed, not detected. J=Present below detection limit. B=Present in blank. NS=Not spiked. %=Percent recovery.

SOLAR POND CORE SAMPLES

GC/MS DATA SUMMARY

Semivolatile HAZARDOUS SUBSTANCE LIST COMPOUNDS

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

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Sample Information

RFW Batch ID:	8609-022-010	8609-022-011	8609-022-003	8609-022-004
Customer ID:	C208609861	C208609862	C228609860	C228609861
Matrix:	Soil	Soil	Soil	Soil
Units:	UG/KG	UG/KG	UG/KG	UG/KG
Dilution Factor:	44	45	41	42

Analytes

3-Nitroaniline.....	2200 U	2250 U	2050 U	2100 U
Acenaphthene.....	440 U	450 U	410 U	420 U
2,4-Dinitrophenol.....	2200 U	2250 U	2100 U	2100 U
4-Nitrophenol.....	2200 U	2250 U	2100 U	2100 U
Dibenzofuran.....	440 U	450 U	2050 U	420 U
2,4-Dinitrotoluene.....	440 U	450 U	410 U	420 U
2,6-Dinitrotoluene.....	440 U	450 U	410 U	420 U
Diethylphthalate.....	440 U	450 U	410 U	420 U
4-Chlorophenyl-phenylether.....	440 U	450 U	410 U	420 U
Fluorene.....	440 U	450 U	410 U	420 U
4-Nitroaniline.....	2200 U	2250 U	2050 U	2100 U
4,6-Dinitro-2-methylphenol.....	2200 U	2250 U	2500 U	2100 U
N-Nitrosodiphenylamine.....	130 JB	140 JB	330 JB	290 JB
4-Bromophenyl-phenylether.....	440 U	450 U	410 U	420 U
Hexachlorobenzene.....	440 U	450 U	410 U	420 U
Pentachlorophenol.....	2200 U	2250 U	2050 U	2100 U
Phenanthrene.....	440 U	450 U	410 U	420 U
Anthracene.....	440 U	450 U	410 U	420 U
di-n-Butyl Phthalate.....	260 JB	450 U	250 JB	40 JB
Fluoranthene.....	440 U	450 U	410 U	420 U
Pyrene.....	440 U	450 U	410 U	420 U
Butyl Benzyl Phthalate.....	440 U	450 U	410 U	420 U
3,3'-Dichlorobenzidine.....	880 U	900 U	820 U	840 U
Benzo(a)Anthracene.....	440 U	450 U	410 U	420 U
bis(2-Ethylhexyl)Phthalate.....	440 U	450 U	410 U	420 U
Chrysene.....	440 U	450 U	410 U	420 U
di-n-Octyl Phthalate.....	440 U	450 U	410 U	250 J
Benzo(b)Fluoranthene.....	440 U	450 U	410 U	420 U
Benzo(k)Fluoranthene.....	440 U	450 U	410 U	420 U
Benzo(a)Pyrene.....	440 U	450 U	410 U	420 U
Indeno(1,2,3-cd)Pyrene.....	440 U	450 U	410 U	420 U
Dibenz(a,h)Anthracene.....	440 U	450 U	410 U	420 U
Benzo(g,h,i)Perylene.....	440 U	450 U	410 U	420 U

Modifiers: U=Analyzed, not detected. J=Present below detection limit. B=Present in blank. NS=Not spiked. %=%Percent recovery.

SOLAR POND CORE SAMPLES
GC/MS DATA SUMMARY
Semivolatile HAZARDOUS SUBSTANCE LIST COMPOUNDS

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

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Sample Information

RFW Batch ID:	8609-022-005	8609-022-012	8609-022-001	8609-022-002
Customer ID:	C228609862	C258608860	C258608861	C258608862
Matrix:	Soil	Soil	Soil	Soil
Units:	UG/KG	UG/KG	UG/KG	UG/KG
Dilution Factor:	40	40	44	40

Surrogate Recovery

2-Fluorophenol:	51 %	63 %	70 %	8 %
Phenol-d5:	56 %	69 %	71 %	9 %
2,4,6-Br3-Phenol:	56 %	86 %	94 %	11 %
Nitrobenzene-d5:	49 %	67 %	76 %	9 %
2-Fluorobiphenyl:	62 %	76 %	89 %	11 %
p-Terphenyl-d14:	51 %	58 %	67 %	9 %

Analytes

Phenol.....	400 U	400 U	440 U	400 U
bis(2-Chloroethyl)Ether.....	400 U	400 U	440 U	400 U
2-Chlorophenol.....	400 U	400 U	440 U	400 U
1,3-Dichlorobenzene.....	400 U	400 U	440 U	400 U
1,4-Dichlorobenzene.....	400 U	400 U	440 U	400 U
Benzyl Alcohol.....	400 U	400 U	440 U	400 U
1,2-Dichlorobenzene.....	400 U	400 U	440 U	400 U
2-Methylphenol.....	400 U	400 U	440 U	400 U
bis(2-Chloroisopropyl)Ether.....	400 U	400 U	440 U	400 U
4-Methylphenol.....	400 U	400 U	440 U	400 U
N-Nitroso-di-n-propylamine.....	400 U	400 U	440 U	400 U
Hexachloroethane.....	400 U	400 U	440 U	400 U
Nitrobenzene.....	400 U	400 U	440 U	400 U
Isophorone.....	400 U	400 U	440 U	400 U
2-Nitrophenol.....	400 U	400 U	440 U	400 U
2,4-Dimethylphenol.....	400 U	400 U	440 U	400 U
Benzoic Acid.....	2000 U	2000 U	2200 U	2000 U
bis(2-Chloroethoxy)Methane.....	400 U	400 U	440 U	400 U
2,4-Dichlorophenol.....	400 U	400 U	440 U	400 U
1,2,4-Trichlorobenzene.....	400 U	400 U	440 U	400 U
Naphthalene.....	400 U	400 U	440 U	400 U
4-Chloroaniline.....	400 U	400 U	440 U	400 U
Hexachlorobutadiene.....	400 U	400 U	440 U	400 U
4-Chloro-3-methylphenol.....	400 U	400 U	440 U	400 U
2-Methylnaphthalene.....	400 U	400 U	440 U	400 U
Hexachlorocyclopentadiene.....	400 U	400 U	440 U	400 U
2,4,6-Trichlorophenol.....	400 U	400 U	440 U	400 U
2,4,5-Trichlorophenol.....	2000 U	2000 U	2200 U	2000 U
2-Chloronaphthalene.....	400 U	400 U	440 U	400 U
2-Nitroaniline.....	2000 U	2000 U	2200 U	2000 U
Dimethyl Phthalate.....	400 U	400 U	440 U	400 U
Acenaphthylene.....	400 U	400 U	440 U	400 U

Modifiers: U=Analyzed, not detected. J=Present below detection limit. B=Present in blank. NS=Not spiked. %=Percent recovery.

SOLAR POND CORE SAMPLES
GC/MS DATA SUMMARY
Semivolatile HAZARDOUS SUBSTANCE LIST COMPOUNDS

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

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Sample Information

RFW Batch ID:	8609-022-005	8609-022-012	8609-022-001	8609-022-002
Customer ID:	C228609862	C258608860	C258608861	C258608862
Matrix:	Soil	Soil	Soil	Soil
Units:	UG/KG	UG/KG	UG/KG	UG/KG
Dilution Factor:	40	40	44	40

Analytes

3-Nitroaniline.....	2000 U	2000 U	2200 U	2000 U
Acenaphthene.....	400 U	400 U	440 U	400 U
2,4-Dinitrophenol.....	2000 U	2000 U	2200 U	2000 U
4-Nitrophenol.....	2000 U	2000 U	2200 U	2000 U
Dibenzofuran.....	400 U	400 U	440 U	400 U
2,4-Dinitrotoluene.....	400 U	400 U	440 U	400 U
2,6-Dinitrotoluene.....	400 U	400 U	440 U	400 U
Diethylphthalate.....	400 U	400 U	440 U	400 U
4-Chlorophenyl-phenylether.....	400 U	400 U	440 U	400 U
Fluorene.....	400 U	400 U	440 U	400 U
4-Nitroaniline.....	2000 U	2000 U	2200 U	2000 U
4,6-Dinitro-2-methylphenol.....	2000 U	2000 U	2200 U	2000 U
N-Nitrosodiphenylamine.....	360 JB	280 JB	180 JB	160 JB
4-Bromophenyl-phenylether.....	400 U	400 U	440 U	400 U
Hexachlorobenzene.....	400 U	400 U	440 U	400 U
Pentachlorophenol.....	2000 U	2000 U	2200 U	2000 U
Phenanthenrene.....	400 U	400 U	440 U	400 U
Anthracene.....	400 U	400 U	440 U	400 U
di-n-Butyl Phthalate.....	400 B	480 B	88 JB	680 JB
Fluoranthene.....	400 U	400 U	440 U	400 U
Pyrene.....	400 U	400 U	440 U	400 U
Butyl Benzyl Phthalate.....	400 U	400 U	440 U	400 U
3,3'-Dichlorobenzidine.....	800 U	800 U	880 U	800 U
Benzo(a)Anthracene.....	400 U	400 U	440 U	400 U
bis(2-Ethylhexyl)Phthalate.....	400 U	240 J	440 U	400 U
Chrysene.....	400 U	400 U	440 U	400 U
di-n-Octyl Phthalate.....	40 J	80 J	440 U	400 U
Benzo(b)Fluoranthene.....	400 U	400 U	440 U	400 U
Benzo(k)Fluoranthene.....	400 U	400 U	440 U	400 U
Benzo(a)Pyrene.....	400 U	400 U	440 U	400 U
Indeno(1,2,3-cd)Pyrene.....	400 U	400 U	440 U	400 U
Dibenzo(a,h)Anthracene.....	400 U	400 U	440 U	400 U
Benzo(g,h,i)Perylene.....	400 U	400 U	440 U	400 U

Modifiers: U=Analyzed, not detected. J=Present below detection limit. B=Present in blank. NS=Not spiked. %=%Percent recovery.

SOLAR POND CORE SAMPLES
GC/MS DATA SUMMARY
Semivolatile HAZARDOUS SUBSTANCE LIST COMPOUNDS

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

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Sample Information

RFW Batch ID:	8609-022-006	8609-022-007
Customer ID:	C278609860	C278609861
Matrix:	Soil	Soil
Units:	UG/KG	UG/KG
Dilution Factor:	40	46
		43

Surrogate Recovery

2-Fluorophenol:	46 %	64 %	48 %
Phenol-d5:	52 %	68 %	59 %
2,4,6-Br ₃ -Phenol:	51 %	63 %	47 %
Nitrobenzene-d5:	44 %	64 %	56 %
2-Fluorobiphenyl:	67 %	82 %	71 %
p-Terphenyl-d14:	67 %	78 %	64 %

Analytes

Phenol.....	400 U	460 U	430 U
bis(2-Chloroethyl)Ether.....	400 U	460 U	430 U
2-Chlorophenol.....	400 U	460 U	430 U
1,3-Dichlorobenzene.....	400 U	460 U	430 U
1,4-Dichlorobenzene.....	400 U	460 U	430 U
Benzyl Alcohol.....	400 U	460 U	430 U
1,2-Dichlorobenzene.....	400 U	460 U	430 U
2-Methylphenol.....	400 U	460 U	430 U
bis(2-Chloroisopropyl)Ether.....	400 U	460 U	430 U
4-Methylphenol.....	400 U	460 U	430 U
N-Nitroso-di-n-propylamine.....	400 U	460 U	430 U
Hexachloroethane.....	400 U	460 U	430 U
Nitrobenzene.....	400 U	460 U	430 U
Isophorone.....	400 U	460 U	430 U
2-Nitrophenol.....	400 U	460 U	430 U
2,4-Dimethylphenol.....	400 U	460 U	430 U
Benzoic Acid.....	2000 U	2300 U	2150 U
bis(2-Chloroethoxy)Methane.....	400 U	460 U	430 U
2,4-Dichlorophenol.....	400 U	460 U	430 U
1,2,4-Trichlorobenzene.....	400 U	460 U	430 U
Naphthalene.....	400 U	460 U	430 U
4-Chloroaniline.....	400 U	460 U	430 U
Hexachlorobutadiene.....	400 U	460 U	430 U
4-Chloro-3-methylphenol.....	400 U	460 U	430 U
2-Methylnaphthalene.....	400 U	460 U	430 U
Hexachlorocyclopentadiene.....	400 U	460 U	430 U
2,4,6-Trichlorophenol.....	400 U	460 U	430 U
2,4,5-Trichlorophenol.....	2000 U	2300 U	2150 U
2-Chloronaphthalene.....	400 U	460 U	430 U
2-Nitroaniline.....	2000 U	2300 U	2150 U
Dimethyl Phthalate.....	400 U	460 U	430 U
Acenaphthylene.....	400 U	460 U	430 U

Modifiers: U=Analyzed, not detected. J=Present below detection limit. B=Present in blank. NS=Not spiked. %=Percent recovery.

SOLAR POND CORE SAMPLES
GC/MS DATA SUMMARY
Semivolatile HAZARDOUS SUBSTANCE LIST COMPOUNDS

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

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Sample Information

RFW Batch ID:	8609-022-006	8609-022-007	8609-022-008
Customer ID:	C278609860	C278609861	C278609862
Matrix:	Soil	Soil	Soil
Units:	UG/KG	UG/KG	UG/KG
Dilution Factor:	40	46	43

Analytes

3-Nitroaniline.....	2000 U	2300 U	2150 U
Acenaphthene.....	400 U	460 U	430 U
2,4-Dinitrophenol.....	2000 U	2300 U	2150 U
4-Nitrophenol.....	2000 U	2300 U	2150 U
Dibenzofuran.....	400 U	460 U	430 U
2,4-Dinitrotoluene.....	400 U	460 U	430 U
2,6-Dinitrotoluene.....	400 U	460 U	430 U
Diethylphthalate.....	400 U	460 U	430 U
4-Chlorophenyl-phenylether.....	400 U	460 U	430 U
Fluorene.....	400 U	460 U	430 U
4-Nitroaniline.....	2000 U	2300 U	2150 U
4,6-Dinitro-2-methylphenol.....	2000 U	2300 U	2150 U
N-Nitrosodiphenylamine.....	280 JB	230 JB	170 JB
4-Bromophenyl-phenylether.....	400 U	460 U	430 U
Hexachlorobenzene.....	400 U	460 U	430 U
Pentachlorophenol.....	2000 U	2300 U	2150 U
Phenanthrene.....	400 U	460 U	430 U
Anthracene.....	400 U	460 U	430 U
di-n-Butyl Phthalate.....	120 JB	1060 JB	430 JB
Fluoranthene.....	400 U	460 U	430 U
Pyrene.....	400 U	460 U	430 U
Butyl Benzyl Phthalate.....	400 U	460 U	430 U
3,3'-Dichlorobenzidine.....	800 U	920 U	860 U
Benzo(a)Anthracene.....	400 U	460 U	430 U
bis(2-Ethylhexyl)Phthalate.....	400 U	90 J	430 U
Chrysene.....	400 U	460 U	430 U
di-n-Octyl Phthalate.....	80 J	370 J	130 J
Benzo(b)Fluoranthene.....	400 U	460 U	430 U
Benzo(k)Fluoranthene.....	400 U	460 U	430 U
Benzo(a)Pyrene.....	400 U	460 U	430 U
Indeno(1,2,3-cd)Pyrene.....	400 U	460 U	430 U
Dibenz(a,h)Anthracene.....	400 U	460 U	430 U
Benzo(g,h,i)Perylene.....	400 U	460 U	430 U

Modifiers: U=Analyzed, not detected. J=Present below detection limit. B=Present in blank. NS=Not spiked. %=%Percent recovery.

PESTICIDES/PCBs

SOLAR POND CLOSURE CHARACTERIZATION REPORT
ROCKY FLATS PLANT, GOLDEN, COLORADO

1 JULY 1988

APPENDICES

List: Customer ID's: All

RFW Batch ID	Customer ID	Laboratory ID
8608-052-006	C188608860	
8608-052-007	C188608861	
8608-056-009	C188608862	
8609-022-009	C208609860	
8609-022-010	C208609861	
8609-022-011	C208609862	
8609-022-003	C228609860	
8609-022-004	C228609861	
8609-022-005	C228609862	
8609-022-012	C258608860	
8609-022-001	C258608861	
8609-022-002	C258608862	
8609-022-006	C278609860	
8609-022-007	C278609861	
8609-022-008	C278609862	

SOLAR POND CORE SAMPLES

PESTICIDES/PCB

CLP LIST

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

Page: 1

Sample Information

RFW Batch ID:	8608-052-006	8608-052-007	8608-056-009	8609-022-009
Customer ID:	C188608860	C188608861	C188608862	C208609860
Matrix:	Soil	Soil	Soil	Soil
Units:	UG/KG	UG/KG	UG/KG	UG/KG
Dilution Factor:	.250	.250	.250	.625

Surrogate Recovery

Di-n-butylchloroendate:	36 %	25 %	28 %	143 %
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Analytes

Alpha-BHC.....	2 U	2 U	2 U	5 U
Beta-BHC.....	2 U	2 U	2 U	5 U
Delta-BHC.....	2 U	2 U	2 U	5 U
Gamma-BHC (Lindane).....	2 U	2 U	2 U	5 U
Heptachlor.....	2 U	2 U	2 U	5 U
Aldrin.....	2 U	2 U	2 U	5 U
Heptachlor Epoxide.....	2 U	2 U	2 U	5 U
Endosulfan I.....	2 U	2 U	2 U	5 U
Dieldrin.....	4 U	4 U	4 U	10 U
4,4'-DDE.....	4 U	4 U	4 U	10 U
Endrin.....	4 U	4 U	4 U	10 U
Endosulfan II.....	4 U	4 U	4 U	10 U
4,4'-DDD.....	4 U	4 U	4 U	10 U
Endosulfan Sulfate.....	4 U	4 U	4 U	10 U
4,4'-DDT.....	4 U	4 U	4 U	10 U
Methoxychlor.....	20 U	20 U	20 U	50 U
Endrin Ketone.....	4 U	4 U	4 U	10 U
Chlordane.....	20 U	20 U	20 U	50 U
Toxaphene.....	40 U	40 U	40 U	100 U
Aroclor-1016.....	20 U	20 U	20 U	50 U
Aroclor-1221.....	20 U	20 U	20 U	50 U
Aroclor-1232.....	20 U	20 U	20 U	50 U
Aroclor-1242.....	20 U	20 U	20 U	50 U
Aroclor-1248.....	20 U	20 U	20 U	50 U
Aroclor-1254.....	40 U	40 U	40 U	100 U
Aroclor-1260.....	40 U	40 U	40 U	100 U

Modifiers: U=Analyzed, not detected. J=Present below detection limit. B=Present in blank. NS=Not spiked. %=Percent recovery.

SOLAR POND CORE SAMPLES

PESTICIDES/PCB

CLP LIST

RFW Batch Numbers:

Client: ROCKWELL (ROCKY FLATS)

Page: 2

Sample Information

RFW Batch ID:	8609-022-010	8609-022-011	8609-022-003	8609-022-004
Customer ID:	C208609861	C208609862	C228609860	C228609861
Matrix:	Soil	Soil	Soil	Soil
Units:	UG/KG	UG/KG	UG/KG	UG/KG
Dilution Factor:	.625	.625	.625	.625

Surrogate Recovery

Di-n-butylchloroendate:	203 %	135 %	163 %	169 %
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Analytes

Alpha-BHC.....	5 U	5 U	5 U	5 U
Beta-BHC.....	5 U	5 U	5 U	5 U
Delta-BHC.....	5 U	5 U	5 U	5 U
Gamma-BHC (Lindane).....	5 U	5 U	5 U	5 U
Heptachlor.....	5 U	5 U	5 U	5 U
Aldrin.....	5 U	5 U	5 U	5 U
Heptachlor Epoxide.....	5 U	5 U	5 U	5 U
Endosulfan I.....	5 U	5 U	5 U	5 U
Dieldrin.....	10 U	10 U	10 U	10 U
4,4'-DDE.....	10 U	10 U	10 U	10 U
Endrin.....	10 U	10 U	10 U	10 U
Endosulfan II.....	10 U	10 U	10 U	10 U
4,4'-DDD.....	10 U	10 U	10 U	10 U
Endosulfan Sulfate.....	10 U	10 U	10 U	10 U
4,4'-DDT.....	10 U	10 U	10 U	10 U
Methoxychlor.....	50 U	50 U	50 U	50 U
Endrin Ketone.....	10 U	10 U	10 U	10 U
Chlordane.....	50 U	50 U	50 U	50 U
Toxaphene.....	100 U	100 U	100 U	100 U
Aroclor-1016.....	50 U	50 U	50 U	50 U
Aroclor-1221.....	50 U	50 U	50 U	50 U
Aroclor-1232.....	50 U	50 U	50 U	50 U
Aroclor-1242.....	50 U	50 U	50 U	50 U
Aroclor-1248.....	50 U	50 U	50 U	50 U
Aroclor-1254.....	100 U	100 U	100 U	100 U
Aroclor-1260.....	100 U	100 U	100 U	100 U

Modifiers: U=Analyzed, not detected. J=Present below detection limit. B=Present in blank. NS=Not spiked. %=Percent recovery.

SOLAR POND CORE SAMPLES
PESTICIDES/PCB
CLP LIST

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RFW Batch Number: Client: ROCKWELL (ROCKY FLATS)

Page: 3

Sample Information

RFW Batch ID:	8609-022-005	8609-022-012	8609-022-001	8609-022-002
Customer ID:	C228609862	C258608860	C258608861	C258608862
Matrix:	Soil	Soil	Soil	Soil
Units:	UG/KG	UG/KG	UG/KG	UG/KG
Dilution Factor:	.625	.625	.625	.625

Surrogate Recovery

Di-n-butylchlorendate:	146 %	185 %	249 %	35 %
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Analytes

Alpha-BHC.....	5 U	5 U	5 U	5 U
Beta-BHC.....	5 U	5 U	5 U	5 U
Delta-BHC.....	5 U	5 U	5 U	5 U
Gamma-BHC (Lindane).....	5 U	5 U	5 U	5 U
Heptachlor.....	5 U	5 U	5 U	5 U
Aldrin.....	5 U	5 U	5 U	5 U
Heptachlor Epoxide.....	5 U	5 U	5 U	5 U
Endosulfan I.....	5 U	5 U	5 U	5 U
Dieldrin.....	10 U	10 U	10 U	10 U
4,4'-DDE.....	10 U	10 U	10 U	10 U
Endrin.....	10 U	10 U	10 U	10 U
Endosulfan II.....	10 U	10 U	10 U	10 U
4,4'-DDD.....	10 U	10 U	10 U	10 U
Endosulfan Sulfate.....	10 U	10 U	10 U	10 U
4,4'-DDT.....	10 U	10 U	10 U	10 U
Methoxychlor.....	50 U	50 U	50 U	50 U
Endrin Ketone.....	10 U	10 U	10 U	10 U
Chlordane.....	50 U	50 U	50 U	50 U
Toxaphene.....	100 U	100 U	100 U	100 U
Aroclor-1016.....	50 U	50 U	50 U	50 U
Aroclor-1221.....	50 U	50 U	50 U	50 U
Aroclor-1232.....	50 U	50 U	50 U	50 U
Aroclor-1242.....	50 U	50 U	50 U	50 U
Aroclor-1248.....	50 U	50 U	50 U	50 U
Aroclor-1254.....	100 U	100 U	100 U	100 U
Aroclor-1260.....	100 U	100 U	100 U	100 U

Modifiers: U=Analyzed, not detected. J=Present below detection limit. B=Present in blank. NS=Not spiked. % =Percent recovery.

SOLAR POND CORE SAMPLES
PESTICIDES/PCB
CLP LIST

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RFW Batch Number: Client: ROCKWELL (ROCKY FLATS)

Page: 4

Sample Information

RFW Batch ID:	8609-022-006	8609-022-007	8609-022-008
Customer ID:	C278609860	C278609861	C278609862
Matrix:	Soil	Soil	Soil
Units:	UG/KG	UG/KG	UG/KG
Dilution Factor:	.625	.625	.625

Surrogate Recovery

Di-n-butylchloroendate:	177 %	164 %	147 %
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Analytes

Alpha-BHC.....	5 U	5 U	5 U
Beta-BHC.....	5 U	5 U	5 U
Delta-BHC.....	5 U	5 U	5 U
Gamma-BHC (Lindane).....	5 U	5 U	5 U
Heptachlor.....	5 U	5 U	5 U
Aldrin.....	5 U	5 U	5 U
Heptachlor Epoxide.....	5 U	5 U	5 U
Endosulfan I.....	5 U	5 U	5 U
Dieldrin.....	10 U	10 U	10 U
4,4'-DDE.....	10 U	10 U	10 U
Endrin.....	10 U	10 U	10 U
Endosulfan II.....	10 U	10 U	10 U
4,4'-DDD.....	10 U	10 U	10 U
Endosulfan Sulfate.....	10 U	10 U	10 U
4,4'-DDT.....	10 U	10 U	10 U
Methoxychlor.....	50 U	50 U	50 U
Endrin Ketone.....	10 U	10 U	10 U
Chlordane.....	50 U	50 U	50 U
Toxaphene.....	100 U	100 U	100 U
Aroclor-1016.....	50 U	50 U	50 U
Aroclor-1221.....	50 U	50 U	50 U
Aroclor-1232.....	50 U	50 U	50 U
Aroclor-1242.....	50 U	50 U	50 U
Aroclor-1248.....	50 U	50 U	50 U
Aroclor-1254.....	100 U	100 U	100 U
Aroclor-1260.....	100 U	100 U	100 U

Modifiers: U=Analyzed, not detected. J=Present below detection limit. B=Present in blank. NS=Not spiked. %=Percent recovery.

RADIONUCLIDES

**SOLAR POND CLOSURE CHARACTERIZATION REPORT
ROCKY FLATS PLANT, GOLDEN, COLORADO**

1 JULY 1988

APPENDICES

List: Customer ID's: All

RFW Batch ID	Customer ID	Laboratory ID
2000-000-061	SP018700FS	9299-26206-5-1
2000-000-062	SP018704DH	9299-26206-5-2
2000-000-063	SP018705DH	9299-26206-5-3
2000-000-064	SP018711DH	9299-26206-5-4
2000-000-065	SP018713DH	9299-26206-5-5
2000-000-066	SP018716BR	9299-26207-3-1
2000-000-067	SP018721DH	9299-26207-3-2
2000-000-068	SP018723DH	9299-26207-3-3
2000-000-128	SP02870008	9299-26208-4-4
2000-000-125	SP028708UC	9299-26208-4-1
2000-000-126	SP028711CT	9299-26208-4-2
2000-000-127	SP028713BR	9299-26208-4-3
2000-000-001	SP038711DH	9299-26205-3-1
2000-000-002	SP038713CT	9299-26205-3-2
2000-000-003	SP038716BR	9299-26205-3-3
2000-000-009	SP0487004D	9299-26210-4-3
2000-000-007	SP048702DH	9299-26210-4-1
2000-000-008	SP048704DH	9299-26210-4-2
2000-000-010	SP048707DH	9299-26210-4-4
2000-000-014	SP048712DH	9299-26212-8-1
2000-000-015	SP048715FS	9299-26212-8-2
2000-000-016	SP048717DH	9299-26212-8-3
2000-000-017	SP048720DH	9299-26212-8-4
2000-000-018	SP048722DH	9299-26212-8-5
2000-000-019	SP048725DH	9299-26212-8-6
2000-000-020	SP048727DH	9299-26212-8-7
2000-000-021	SP048730DH	9299-26212-8-8
2000-000-030	SP048732DH	9299-26215-1-1
2000-000-032	SP058702DH	9299-26217-6-1
2000-000-033	SP058704DH	9299-26217-6-2
2000-000-034	SP058707DH	9299-26217-6-3
2000-000-035	SP058710DH	9299-26217-6-4
2000-000-036	SP058712DH	9299-26217-6-5
2000-000-037	SP058716DH	9299-26217-6-6
2000-000-109	SP068702FS	9299-26229-7-1
2000-000-110	SP068708DH	9299-26229-7-2
2000-000-111	SP068711DH	9299-26229-7-3
2000-000-112	SP068713DH	9299-26229-7-4
2000-000-113	SP068716DH	9299-26229-7-5
2000-000-114	SP068718DH	9299-26229-7-6
2000-000-115	SP068721DH	9299-26229-7-7
2000-000-086	SP068724DH	9299-26230-2-1
2000-000-087	SP068726DH	9299-26230-2-2
2000-000-099	SP078700DH	9299-26226-5-1
2000-000-100	SP078702DH	9299-26226-5-2
2000-000-101	SP078708FS	9299-26226-5-3
2000-000-102	SP078711DH	9299-26226-5-4
2000-000-103	SP078713DH	9299-26226-5-5
2000-000-104	SP078716DH	9299-26227-5-1
2000-000-105	SP078718WT	9299-26227-5-2
2000-000-106	SP078721CT	9299-26227-5-3

List: Customer ID's: All

RFW Batch ID	Customer ID	Laboratory ID
2000-000-107	SP078723BR	9299-26227-5-4
2000-000-108	SP078726DH	9299-26227-5-5
2000-000-004	SP088703UC	9299-26209-3-1
2000-000-005	SP088706CT	9299-26209-3-2
2000-000-006	SP088709BR	9299-26209-3-3
2000-000-011	SP098703UC	9299-26211-3-1
2000-000-012	SP098706CT	9299-26211-3-2
2000-000-013	SP098708BR	9299-26211-3-3
2000-000-077	SP108700DH	9299-26220-9-1
2000-000-041	SP1087017D	9299-26222-4-2
2000-000-078	SP108702DH	9299-26220-9-2
2000-000-079	SP108704BR	9299-26220-9-3
2000-000-080	SP108705DH	9299-26220-9-4
2000-000-081	SP108707DH	9299-26220-9-5
2000-000-082	SP108709DH	9299-26220-9-6
2000-000-083	SP108711DH	9299-26220-9-7
2000-000-084	SP108713DH	9299-26220-9-8
2000-000-085	SP108715DH	9299-26220-9-9
2000-000-040	SP108717DH	9299-26222-4-1
2000-000-042	SP108719DH	9299-26222-4-3
2000-000-043	SP108721WT	9299-26222-4-4
2000-000-044	SP108723DH	9299-26223-2-1
2000-000-045	SP108724DH	9299-26223-2-2
2000-000-022	SP11870008	9299-26214-8-1
2000-000-069	SP118708DH	9299-26213-1-1
2000-000-023	SP118711DH	9299-26214-8-2
2000-000-024	SP118714DH	9299-26214-8-3
2000-000-025	SP118716DH	9299-26214-8-4
2000-000-026	SP118719DH	9299-26214-8-5
2000-000-027	SP118721DH	9299-26214-8-6
2000-000-028	SP118724DH	9299-26214-8-7
2000-000-029	SP118726DH	9299-26214-8-8
2000-000-031	SP118729DH	9299-26216-1-1
2000-000-088	SP12870009	9299-26221-6-1
2000-000-089	SP12870916	9299-26221-6-2
2000-000-038	SP128716DH	9299-26219-2-1
2000-000-039	SP128719DH	9299-26219-2-2
2000-000-090	SP128721DH	9299-26221-6-3
2000-000-091	SP128724DH	9299-26221-6-4
2000-000-092	SP128726DH	9299-26221-6-5
2000-000-093	SP128729DH	9299-26221-6-6
2000-000-094	SP128731DH	9299-26224-5-1
2000-000-095	SP128734DH	9299-26224-5-2
2000-000-096	SP128739DH	9299-26224-5-3
2000-000-097	SP128741DH	9299-26224-5-4
2000-000-070	SP138700UC	9299-26218-7-1
2000-000-071	SP138701CT	9299-26218-7-2
2000-000-072	SP138703BR	9299-26218-7-3
2000-000-073	SP138706DH	9299-26218-7-4
2000-000-075	SP138709DH	9299-26218-7-6
2000-000-076	SP138711DH	9299-26218-7-7

List: Customer ID's: All

RFW Batch ID	Customer ID	Laboratory ID
2000-000-074	SP13876DUP	9299-26218-7-5
2000-000-098	SP148702CT	9299-26224-5-5
2000-000-046	SP148704BR	9299-26225-4-1
2000-000-048	SP1587008D	9299-26225-4-3
2000-000-129	SP158702DH	
2000-000-047	SP158708DH	9299-26225-4-2
2000-000-049	SP158710DH	9299-26225-4-4
2000-000-050	SP158712WT	9299-26228-3-1
2000-000-051	SP158714CT	9299-26228-3-2
2000-000-052	SP158717BR	9299-26228-3-3
2000-000-121	SP168702FS	9299-26232-4-1
2000-000-122	SP168708UC	9299-26232-4-2
2000-000-123	SP168710CT	9299-26232-4-3
2000-000-124	SP168711BR	9299-26232-4-4

SOLAR POND BOREHOLE SAMPLES
RADIOCHEMISTRY
DATA SUMMARY REPORT

RFW Batch Number: Client: ROCKWELL (ROCKY FLATS) Page: 1

Sample Information

RFW Batch ID:	2000-000-061	2000-000-062	2000-000-063
Customer ID:	SP018700FS	SP018704DH	SP018705DH
Matrix:	Soil	Soil	Soil

Radio Chemistry

Gross Alpha.....	110 +/- 20	pci/g	34 +/- 10	pci/g	28 +/- 10	pci/g
Gross Beta.....	8.6 +/- 6.1	pci/g	23 +/- 6	pci/g	14 +/- 6	pci/g
Uranium 233, 234.....	4.0 +/- 0.6	pci/g	1.7 +/- 0.4	pci/g	2.0 +/- 0.4	pci/g
Uranium 235.....						
Uranium 238.....	1.9 +/- 0.4	pci/g	2.1 +/- 0.5	pci/g	2.8 +/- 0.5	pci/g
Strontium 89, 90.....	0.1 +/- 0.4	pci/g	-0.1 +/- 0.3	pci/g	-0.3 +/- 0.6	pci/g
Plutonium 239, 240.....	18 +/- 1	pci/g	0.09 +/- 0.14	pci/g	0.32 +/- 0.17	pci/g
Americium 241.....	2.2 +/- 0.2	pci/g	0.02 +/- 0.06	pci/g	0.06 +/- 0.07	pci/g
Cesium 137.....						
Tritium.....	< .63	pci/g	< 0.64	pci/g	< .64	pci/g

Sample Information

RFW Batch ID:	2000-000-064	2000-000-065	2000-000-066
Customer ID:	SP018711DH	SP018713DH	SP018716BR
Matrix:	Soil	Soil	Soil

Radio Chemistry

Gross Alpha.....	24 +/- 14	pci/g	26 +/- 14	pci/g	10 +/- 12	pci/g
Gross Beta.....	29 +/- 7	pci/g	33 +/- 7	pci/g	16 +/- 6	pci/g
Uranium 233, 234.....	0.52 +/- 0.13	pci/g	0.40 +/- 0.12	pci/g	0.70 +/- 0.14	pci/g
Uranium 235.....						
Uranium 238.....	0.61 +/- .014	pci/g	0.54 +/- 0.13	pci/g	0.53 +/- 0.13	pci/g
Strontium 89, 90.....	0.0 +/- 0.4	pci/g	0.2 +/- 0.4	pci/g	0.2 +/- 0.3	pci/g
Plutonium 239, 240.....	0.09 +/- 0.14	pci/g	0.00 +/- 0.15	pci/g	0.00 +/- 0.14	pci/g
Americium 241.....	0.05 +/- 0.08	pci/g	0.04 +/- 0.07	pci/g	0.07 +/- 0.08	pci/g
Cesium 137.....						
Tritium.....	< 0.61	pci/g	< .61	pci/g	< .64	pci/g

SOLAR POND BOREHOLE SAMPLES
RADIOCHEMISTRY
DATA SUMMARY REPORT

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RFW Batch Number: Client: ROCKWELL (ROCKY FLATS)

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Sample Information

RFW Batch ID:	2000-000-067	2000-000-068	2000-000-128
Customer ID:	SP018721DH	SP018723DH	SP02870008
Matrix:	Soil	Soil	Soil

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	18 +/- 13	pci/g	20 +/- 14	pci/g	14 +/- 13	pci/g
Gross Alpha.....	18 +/- 13	pci/g	20 +/- 14	pci/g	14 +/- 13	pci/g
Gross Beta.....	18 +/- 6	pci/g	17 +/- 6	pci/g	36 +/- 7	pci/g
Uranium 233, 234.....	0.57 +/- 0.14	pci/g	0.77 +/- 0.16	pci/g	1.5 +/- 0.3	pci/g
Uranium 235.....						
Uranium 238.....	0.71 +/- 0.15	pci/g	0.78 +/- 0.16	pci/g	1.2 +/- 0.2	pci/g
Strontium 89, 90.....	0.2 +/- 0.4	pci/g	0.2 +/- 0.4	pci/g	0.2 +/- 0.3	pci/g
Plutonium 239, 240.....	-0.03 +/- 0.13	pci/g	0.04 +/- 0.15	pci/g	0.13 +/- 0.15	pci/g
Americium 241.....	0.07 +/- 0.08	pci/g	0.08 +/- 0.08	pci/g	0.22 +/- 0.13	pci/g
Cesium 137.....						
Tritium.....	< .64	pci/g	< .64	pci/g	< .64	pci/g

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Sample Information

RFW Batch ID:	2000-000-125	2000-000-126	2000-000-127
Customer ID:	SP028708UC	SP028711CT	SP028713BR
Matrix:	Soil	Soil	Soil

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	21 +/- 9	pci/g	14 +/- 13	pci/g	11 +/- 14	pci/g
Gross Alpha.....	21 +/- 9	pci/g	14 +/- 13	pci/g	11 +/- 14	pci/g
Gross Beta.....	15 +/- 6	pci/g	30 +/- 7	pci/g	7.1 +/- 5.6	pci/g
Uranium 233, 234.....	0.58 +/- 0.16	pci/g	0.54 +/- 0.14	pci/g	0.26 +/- 0.11	pci/g
Uranium 235.....						
Uranium 238.....	0.49 +/- 0.15	pci/g	0.55 +/- 0.14	pci/g	0.19 +/- 0.10	pci/g
Strontium 89, 90.....	0.4 +/- 0.3	pci/g	0.1 +/- 0.4	pci/g	0.1 +/- 0.3	pci/g
Plutonium 239, 240.....	-0.02 +/- 0.13	pci/g	0.06 +/- 0.14	pci/g	0.01 +/- 0.14	pci/g
Americium 241.....	0.02 +/- 0.06	pci/g	0.01 +/- 0.06	pci/g	0.04 +/- 0.07	pci/g
Cesium 137.....						
Tritium.....	< .61	pci/g	< .61	pci/g	< .61	pci/g

SOLAR POND BOREHOLE SAMPLES
RADIOCHEMISTRY
DATA SUMMARY REPORT

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

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Sample Information

RFW Batch ID:	2000-000-001	2000-000-002
Customer ID:	SP038711DH	SP038713CT
Matrix:	Soil	Soil

2000-000-003
SP038716BR
Soil

Radio Chemistry

Gross Alpha.....	21 +/- 14	pci/g	22 +/- 9	pci/g	22 +/- 14	pci/g
Gross Beta.....	15 +/- 6	pci/g	16 +/- 6	pci/g	21 +/- 7	pci/g
Uranium 233, 234.....	0.63 +/- 0.21	pci/g	0.61 +/- 0.18	pci/g	0.77 +/- 0.18	pci/g
Uranium 235.....						
Uranium 238.....	0.67 +/- 0.22	pci/g	0.47 +/- 0.17	pci/g	0.70 +/- 0.18	pci/g
Strontium 89, 90.....	-0.1 +/- 0.4	pci/g	0.1 +/- 0.3	pci/g	-0.1 +/- 0.3	pci/g
Plutonium 239, 240.....	0.05 +/- 0.15	pci/g	-0.01 +/- 0.14	pci/g	0.03 +/- 0.12	pci/g
Americium 241.....	0.09 +/- 0.12	pci/g	0.05 +/- 0.08	pci/g	0.03 +/- 0.07	pci/g
Cesium 137.....						
Tritium.....	< .61	pci/g	1.1 +/- 0.3	pci/g	2.0 +/- 0.3	pci/g

Sample Information

RFW Batch ID:	2000-000-009	2000-000-007
Customer ID:	SP0487004D	SP048702DH
Matrix:	Soil	Soil

2000-000-008
SP048704DH
Soil

Radio Chemistry

Gross Alpha.....	13 +/- 6	pci/g	34 +/- 11	pci/g	57 +/- 13	pci/g
Gross Beta.....	12 +/- 6	pci/g	15 +/- 6	pci/g	17 +/- 6	pci/g
Uranium 233, 234.....	0.63 +/- 0.15	pci/g	1.6 +/- 0.2	pci/g	1.1 +/- 0.2	pci/g
Uranium 235.....						
Uranium 238.....	0.66 +/- 0.14	pci/g	0.93 +/- 0.16	pci/g	0.86 +/- 0.15	pci/g
Strontium 89, 90.....	0.1 +/- 0.6	pci/g	0.2 +/- 0.4	pci/g	0.2 +/- 0.6	pci/g
Plutonium 239, 240.....	0.14 +/- 0.11	pci/g	1.9 +/- 0.3	pci/g	0.01 +/- 0.09	pci/g
Americium 241.....	0.11 +/- 0.10	pci/g	1.2 +/- 0.2	pci/g	0.06 +/- 0.08	pci/g
Cesium 137.....						
Tritium.....	< .64	pci/g	< .61	pci/g	1.3 +/- 0.3	pci/g

SOLAR POND BOREHOLE SAMPLES
RADIOCHEMISTRY
DATA SUMMARY REPORT

RFW Batch Number: Client: ROCKWELL (ROCKY FLATS) Page: 4

Sample Information

RFW Batch ID:	2000-000-010	2000-000-014	2000-000-015
Customer ID:	SP048707DH	SP048712DH	SP048715FS
Matrix:	Soil	Soil	Soil

Radio Chemistry

Gross Alpha.....	16 +/- 17	pci/g	31 +/- 12	pci/g	17 +/- 10	pci/g
Gross Beta.....	17 +/- 6	pci/g	31 +/- 6	pci/g	28 +/- 6	pci/g
Uranium 233, 234.....	0.86 +/- 0.17	pci/g	1.1 +/- 0.2	pci/g	1.1 +/- 0.2	pci/g
Uranium 235.....						
Uranium 238.....	0.81 +/- 0.16	pci/g	1.0 +/- 0.2	pci/g	1.0 +/- 0.2	pci/g
Strontium 89, 90.....	0.2 +/- 0.6	pci/g	0.6 +/- 0.6	pci/g	0.2 +/- 0.5	pci/g
Plutonium 239, 240.....	0.05 +/- 0.11	pci/g	-0.03 +/- 0.08	pci/g	0.00 +/- 0.08	pci/g
Americium 241.....	0.06 +/- 0.08	pci/g	0.03 +/- 0.07	pci/g	0.06 +/- 0.07	pci/g
Cesium 137.....						
Tritium.....	< .64	pci/g	1.0 +/- 0.3	pci/g	.64 +/- .29	pci/g

Sample Information

RFW Batch ID:	2000-000-016	2000-000-017	2000-000-018
Customer ID:	SP048717DH	SP048720DH	SP048722DH
Matrix:	Soil	Soil	Soil

Radio Chemistry

Gross Alpha.....	11 +/- 9	pci/g	20 +/- 10	pci/g	32 +/- 12	pci/g
Gross Beta.....	19 +/- 6	pci/g	21 +/- 6	pci/g	22 +/- 6	pci/g
Uranium 233, 234.....	1.0 +/- 0.2	pci/g	1.1 +/- 0.2	pci/g	1.6 +/- 0.4	pci/g
Uranium 235.....						
Uranium 238.....	1.0 +/- 0.2	pci/g	1.2 +/- 0.2	pci/g	1.3 +/- 0.3	pci/g
Strontium 89, 90.....	0.1 +/- 0.6	pci/g	0.0 +/- 0.5	pci/g	-0.1 +/- 0.5	pci/g
Plutonium 239, 240.....	0.03 +/- 0.11	pci/g	-0.06 +/- 0.07	pci/g	-0.04 +/- 0.08	pci/g
Americium 241.....	0.00 +/- 0.06	pci/g	0.10 +/- 0.09	pci/g	0.00 +/- 0.06	pci/g
Cesium 137.....						
Tritium.....	< .58	pci/g	.63 +/- 0.27	pci/g	< .66	pci/g

SOLAR POND BOREHOLE SAMPLES
RADIOCHEMISTRY
DATA SUMMARY REPORT

RFW Batch Number: Client: ROCKWELL (ROCKY FLATS) Page: 5

Sample Information

RFW Batch ID:	2000-000-019	2000-000-020
Customer ID:	SP048725DH	SP048727DH
Matrix:	Soil	Soil

Radio Chemistry

Gross Alpha.....	20 +/- 10	pci/g	25 +/- 11	pci/g	25 +/- 11	pci/g
Gross Beta.....	20 +/- 6	pci/g	22 +/- 6	pci/g	27 +/- 6	pci/g
Uranium 233, 234.....	1.1 +/- 0.2	pci/g	0.58 +/- 0.18	pci/g	0.82 +/- 0.18	pci/g
Uranium 235.....						
Uranium 238.....	1.2 +/- 0.2	pci/g	0.70 +/- 0.19	pci/g	0.98 +/- 0.18	pci/g
Strontium 89, 90.....	0.1 +/- 0.6	pci/g	0.2 +/- 0.6	pci/g	0.1 +/- 0.5	pci/g
Plutonium 239, 240.....	-0.03 +/- 0.09	pci/g	-0.04 +/- 0.08	pci/g	0.03 +/- 0.10	pci/g
Americium 241.....	0.01 +/- 0.06	pci/g	0.02 +/- 0.07	pci/g	0.03 +/- 0.07	pci/g
Cesium 137.....						
Tritium.....	< .66	pci/g	< .59	pci/g	< .59	pci/g

Sample Information

RFW Batch ID:	2000-000-030	2000-000-032
Customer ID:	SP048732DH	SP058702DH
Matrix:	Soil	Soil

Radio Chemistry

Gross Alpha.....	12 +/- 9	pci/g	48 +/- 12	pci/g	27 +/- 14	pci/g
Gross Beta.....	21 +/- 6	pci/g	13 +/- 6	pci/g	14 +/- 6	pci/g
Uranium 233, 234.....	0.52 +/- 0.12	pci/g	0.75 +/- 0.15	pci/g	0.76 +/- 0.16	pci/g
Uranium 235.....						
Uranium 238.....	0.71 +/- 0.13	pci/g	0.64 +/- 0.13	pci/g	0.64 +/- 0.14	pci/g
Strontium 89, 90.....	0.5 +/- 0.8	pci/g	0.0 +/- 0.6	pci/g	-0.2 +/- 0.4	pci/g
Plutonium 239, 240.....	-0.02 +/- 0.09	pci/g	0.09 +/- 0.11	pci/g	-0.02 +/- 0.08	pci/g
Americium 241.....	0.02 +/- 0.07	pci/g	0.08 +/- 0.07	pci/g	0.13 +/- 0.08	pci/g
Cesium 137.....						
Tritium.....	< .63	pci/g	< .64	pci/g	< .63	pci/g

SOLAR POND BOREHOLE SAMPLES
RADIOCHEMISTRY
DATA SUMMARY REPORT

RFW Batch Number: Client: ROCKWELL (ROCKY FLATS) Page: 6

Sample Information

RFW Batch ID:	2000-000-034	2000-000-035	2000-000-036
Customer ID:	SP058707DH	SP058710DH	SP058712DH
Matrix:	Soil	Soil	Soil

Radio Chemistry

Gross Alpha.....	16 +/- 13	pci/g	25 +/- 14	pci/g	21 +/- 14	pci/g
Gross Beta.....	17 +/- 6	pci/g	13 +/- 6	pci/g	22 +/- 6	pci/g
Uranium 233, 234.....	0.50 +/- 0.13	pci/g	1.7 +/- 0.2	pci/g	1.2 +/- 0.2	pci/g
Uranium 235.....						
Uranium 238.....	0.39 +/- 0.11	pci/g	1.4 +/- 0.2	pci/g	0.92 +/- 0.15	pci/g
Strontium 89, 90.....	-0.2 +/- 0.6	pci/g	0.1 +/- 0.7	pci/g	0.1 +/- 0.6	pci/g
Plutonium 239, 240.....	0.04 +/- 0.09	pci/g	0.00 +/- 0.09	pci/g	0.13 +/- 0.11	pci/g
Americium 241.....	0.06 +/- 0.06	pci/g	0.00 +/- 0.04	pci/g	0.04 +/- 0.05	pci/g
Cesium 137.....						
Tritium.....	< .61	pci/g	1.1 +/- 0.3	pci/g	1.3 +/- 0.3	pci/g

Sample Information

RFW Batch ID:	2000-000-037	2000-000-109	2000-000-110
Customer ID:	SP058716DH	SP068702FS	SP068708DH
Matrix:	Soil	Soil	Soil

Radio Chemistry

Gross Alpha.....	16 +/- 12	pci/g	21 +/- 9	pci/g	25 +/- 9	pci/g
Gross Beta.....	16 +/- 6	pci/g	30 +/- 6	pci/g	13 +/- 5	pci/g
Uranium 233, 234.....	1.2 +/- 0.2	pci/g	1.2 +/- 0.2	pci/g	0.52 +/- 0.13	pci/g
Uranium 235.....						
Uranium 238.....	0.95 +/- 0.18	pci/g	0.90 +/- 0.18	pci/g	0.59 +/- 0.14	pci/g
Strontium 89, 90.....	-0.2 +/- 0.7	pci/g	-0.2 +/- 0.5	pci/g	0.0 +/- 0.5	pci/g
Plutonium 239, 240.....	0.50 +/- 0.16	pci/g	0.52 +/- 0.16	pci/g	0.09 +/- 0.08	pci/g
Americium 241.....	0.05 +/- 0.07	pci/g	0.50 +/- 0.17	pci/g	0.07 +/- 0.10	pci/g
Cesium 137.....						
Tritium.....	3.3 +/- 0.3	pci/g	< .60	pci/g	< 0.60	pci/g

SOLAR POND BOREHOLE SAMPLES
RADIOCHEMISTRY
DATA SUMMARY REPORT

RFW Batch Number: Client: ROCKWELL (ROCKY FLATS) Page: 7

Sample Information

RFW Batch ID:	2000-000-111	2000-000-112	2000-000-113
Customer ID:	SP068711DH	SP068713DH	SP068716DH
Matrix:	Soil	Soil	Soil

Radio Chemistry

Gross Alpha.....	19 +/- 9	pci/g	14 +/- 8	pci/g	31 +/- 11	pci/g
Gross Beta.....	14 +/- 6	pci/g	14 +/- 6	pci/g	18 +/- 6	pci/g
Uranium 233, 234.....	0.75 +/- 0.17	pci/g	0.50 +/- 0.13	pci/g	0.70 +/- 0.15	pci/g
Uranium 235.....						
Uranium 238.....	0.72 +/- 0.16	pci/g	0.38 +/- 0.11	pci/g	0.82 +/- 0.16	pci/g
Strontium 89, 90.....	0.0 +/- 0.5	pci/g	0.1 +/- 0.4	pci/g	0.2 +/- 0.5	pci/g
Plutonium 239, 240.....	-0.02 +/- 0.07	pci/g	0.03 +/- 0.09	pci/g	0.02 +/- 0.09	pci/g
Americium 241.....	0.01 +/- 0.09	pci/g	0.08 +/- 0.11	pci/g	0.01 +/- 0.10	pci/g
Cesium 137.....						
Tritium.....	< .60	pci/g	< .60	pci/g	< .60	pci/g

Sample Information

RFW Batch ID:	2000-000-114	2000-000-115	2000-000-086
Customer ID:	SP068718DH	SP068721DH	SP068724DH
Matrix:	Soil	Soil	Soil

Radio Chemistry

Gross Alpha.....	39 +/- 11	pci/g	21 +/- 9	pci/g	30 +/- 10	pci/g
Gross Beta.....	21 +/- 6	pci/g	25 +/- 6	pci/g	28 +/- 6	pci/g
Uranium 233, 234.....	1.8 +/- 0.3	pci/g	1.2 +/- 0.2	pci/g	1.4 +/- 0.2	pci/g
Uranium 235.....						
Uranium 238.....	1.7 +/- 0.2	pci/g	1.6 +/- 0.2	pci/g	1.0 +/- 0.2	pci/g
Strontium 89, 90.....	0.6 +/- 0.7	pci/g	0.2 +/- 1.1	pci/g	0.4 +/- 1.0	pci/g
Plutonium 239, 240.....	0.05 +/- 0.09	pci/g	-0.04 +/- 0.07	pci/g	-0.01 +/- 0.08	pci/g
Americium 241.....	0.04 +/- 0.10	pci/g	0.03 +/- 0.10	pci/g	0.04 +/- 0.09	pci/g
Cesium 137.....						
Tritium.....	< .60	pci/g	< .60	pci/g	< .60	pci/g

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RFW Batch Number: Client: ROCKWELL (ROCKY FLATS) Page: 8

Sample Information

RFW Batch ID:	2000-000-087	2000-000-099	2000-000-100
Customer ID:	SP068726DH	SP078700DH	SP078702DH
Matrix:	Soil	Soil	Soil

Radio Chemistry

Gross Alpha.....	36 +/- 11	pci/g	24 +/- 10	pci/g	30 +/- 10	pci/g
Gross Beta.....	23 +/- 6	pci/g	15 +/- 6	pci/g	14 +/- 6	pci/g
Uranium 233, 234.....	1.1 +/- 0.2	pci/g	0.97 +/- 0.26	pci/g	0.60 +/- 0.12	pci/g
Uranium 235.....						
Uranium 238.....	1.3 +/- 0.2	pci/g	0.91 +/- 0.26	pci/g	0.56 +/- 0.12	pci/g
Strontium 89, 90.....	-0.2 +/- 1.0	pci/g	0.2 +/- 0.5	pci/g	0.0 +/- 0.7	pci/g
Plutonium 239, 240.....	0.16 +/- 0.22	pci/g	2.2 +/- 0.3	pci/g	0.10 +/- 0.11	pci/g
Americium 241.....	0.05 +/- 0.10	pci/g	0.61 +/- 0.18	pci/g	0.21 +/- 0.17	pci/g
Cesium 137.....						
Tritium.....	< .60	pci/g	< .66	pci/g	< .66	pci/g

Sample Information

RFW Batch ID:	2000-000-101	2000-000-102	2000-000-103
Customer ID:	SP078708FS	SP078711DH	SP078713DH
Matrix:	Soil	Soil	Soil

Radio Chemistry

Gross Alpha.....	23 +/- 9	pci/g	11 +/- 8	pci/g	22 +/- 9	pci/g
Gross Beta.....	12 +/- 6	pci/g	15 +/- 6	pci/g	16 +/- 6	pci/g
Uranium 233, 234.....	0.50 +/- 0.15	pci/g	0.42 +/- 0.11	pci/g	0.47 +/- 0.13	pci/g
Uranium 235.....						
Uranium 238.....	0.54 +/- 0.16	pci/g	0.50 +/- 0.12	pci/g	0.62 +/- 0.16	pci/g
Strontium 89, 90.....	0.0 +/- 0.5	pci/g	-0.1 +/- 0.5	pci/g	0.2 +/- 0.6	pci/g
Plutonium 239, 240.....	0.05 +/- 0.10	pci/g	0.06 +/- 0.10	pci/g	0.03 +/- 0.10	pci/g
Americium 241.....	-0.03 +/- 0.09	pci/g	0.00 +/- 0.09	pci/g	-0.06 +/- 0.09	pci/g
Cesium 137.....						
Tritium.....	< .59	pci/g	< .61	pci/g	0.65 +/- 0.27	pci/g

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===== RFW Batch Number: Client: ROCKWELL (ROCKY FLATS) Page: 9 =====

Sample Information

RFW Batch ID:	2000-000-104	2000-000-105	2000-000-106
Customer ID:	SP0787160H	SP078718WT	SP078721CT
Matrix:	Soil	Soil	Soil

Radio Chemistry

Gross Alpha.....	23 +/- 10	pci/g	16 +/- 8	pci/g	33 +/- 11	pci/g
Gross Beta.....	23 +/- 6	pci/g	11 +/- 5	pci/g	23 +/- 6	pci/g
Uranium 233, 234.....	0.60 +/- 0.13	pci/g	0.88 +/- 0.18	pci/g	1.5 +/- 0.2	pci/g
Uranium 235.....						
Uranium 238.....	0.41 +/- 0.11	pci/g	0.70 +/- 0.16	pci/g	1.6 +/- 0.2	pci/g
Strontium 89, 90.....	0.2 +/- 0.7	pci/g	0.0 +/- 0.6	pci/g	-0.2 +/- 0.7	pci/g
Plutonium 239, 240.....	-0.02 +/- 0.09	pci/g	-0.01 +/- 0.08	pci/g	-0.01 +/- 0.10	pci/g
Americium 241.....	0.00 +/- 0.10	pci/g	0.05 +/- 0.10	pci/g	-0.01 +/- 0.03	pci/g
Cesium 137.....						
Tritium.....	0.70 +/- 0.28	pci/g	1.3 +/- 0.3	pci/g	2.3 +/- 0.3	pci/g

Sample Information

RFW Batch ID:	2000-000-107	2000-000-108	2000-000-004
Customer ID:	SP078723BR	SP0787260H	SP088703UC
Matrix:	Soil	Soil	Soil

Radio Chemistry

Gross Alpha.....	27 +/- 10	pci/g	20 +/- 9	pci/g	32 +/- 11	pci/g
Gross Beta.....	26 +/- 6	pci/g	22 +/- 6	pci/g	28 +/- 6	pci/g
Uranium 233, 234.....	1.2 +/- 0.2	pci/g	1.1 +/- 0.2	pci/g	1.1 +/- 0.2	pci/g
Uranium 235.....						
Uranium 238.....	1.6 +/- 0.2	pci/g	1.2 +/- 0.2	pci/g	1.0 +/- 0.2	pci/g
Strontium 89, 90.....	0.6 +/- 0.9	pci/g	0.1 +/- 0.9	pci/g	0.4 +/- 0.7	pci/g
Plutonium 239, 240.....	0.01 +/- 0.09	pci/g	0.05 +/- 0.11	pci/g	0.02 +/- 0.14	pci/g
Americium 241.....	0.01 +/- 0.09	pci/g	0.00 +/- 0.09	pci/g	0.02 +/- 0.06	pci/g
Cesium 137.....						
Tritium.....	< .60	pci/g	< .60	pci/g	3.0 +/- 0.3	pci/g

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RFW Batch Number: Client: ROCKWELL (ROCKY FLATS) Page: 10

Sample Information

RFW Batch ID:	2000-000-005	2000-000-006	2000-000-011
Customer ID:	SP088706CT	SP088709BR	SP098703UC
Matrix:	Soil	Soil	Soil

Radio Chemistry

Gross Alpha.....	31 +/- 10	pci/g	12 +/- 12	pci/g	25 +/- 11	pci/g
Gross Beta.....	24 +/- 6	pci/g	14 +/- 6	pci/g	21 +/- 6	pci/g
Uranium 233, 234.....	0.87 +/- 0.15	pci/g	1.0 +/- 0.2	pci/g	0.45 +/- 0.12	pci/g
Uranium 235.....						
Uranium 238.....	0.65 +/- 0.13	pci/g	0.79 +/- 0.17	pci/g	0.43 +/- 0.11	pci/g
Strontium 89, 90.....	-0.4 +/- 0.7	pci/g	0.0 +/- 0.7	pci/g	-0.1 +/- 0.6	pci/g
Plutonium 239, 240.....	-0.01 +/- 0.13	pci/g	0.03 +/- 0.11	pci/g	0.00 +/- 0.09	pci/g
Americium 241.....	0.01 +/- 0.07	pci/g	0.06 +/- 0.09	pci/g	0.02 +/- 0.08	pci/g
Cesium 137.....						
Tritium.....	2.8 +/- 0.3	pci/g	3.8 +/- 0.4	pci/g	0.86 +/- 0.28	pci/g

Sample Information

RFW Batch ID:	2000-000-012	2000-000-013	2000-000-077
Customer ID:	SP098706CT	SP098708BR	SP108700DH
Matrix:	Soil	Soil	Soil

Radio Chemistry

Gross Alpha.....	18 +/- 10	pci/g	18 +/- 10	pci/g	40 +/- 12	pci/g
Gross Beta.....	28 +/- 6	pci/g	19 +/- 6	pci/g	21 +/- 6	pci/g
Uranium 233, 234.....	0.94 +/- 0.18	pci/g	0.84 +/- 0.16	pci/g	1.4 +/- 0.2	pci/g
Uranium 235.....						
Uranium 238.....	1.1 +/- 0.2	pci/g	0.91 +/- 0.16	pci/g	0.67 +/- 0.16	pci/g
Strontium 89, 90.....	-0.2 +/- 0.6	pci/g	-0.1 +/- 0.7	pci/g	-0.6 +/- 0.7	pci/g
Plutonium 239, 240.....	-0.05 +/- 0.07	pci/g	0.02 +/- 0.09	pci/g	3.5 +/- 0.3	pci/g
Americium 241.....	0.06 +/- 0.08	pci/g	0.00 +/- 0.06	pci/g	0.59 +/- 0.19	pci/g
Cesium 137.....						
Tritium.....	< .61	pci/g	< .66	pci/g	< .62	pci/g

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RFW Batch Number: Client: ROCKWELL (ROCKY FLATS) Page: 11

Sample Information

RFW Batch ID:	2000-000-041	2000-000-078	2000-000-079
Customer ID:	SP1087017D	SP108702DH	SP1087048R
Matrix:	Soil	Soil	Soil

Radio Chemistry

Gross Alpha.....	30 +/- 11	pci/g	27 +/- 10	pci/g	33 +/- 16	pci/g
Gross Beta.....	23 +/- 6	pci/g	20 +/- 6	pci/g	26 +/- 7	pci/g
Uranium 233, 234.....	0.60 +/- 0.14	pci/g	3.7 +/- 0.4	pci/g	1.6 +/- 0.2	pci/g
Uranium 235.....						
Uranium 238.....	0.65 +/- 0.14	pci/g	0.88 +/- 0.18	pci/g	0.68 +/- 0.14	pci/g
Strontium 89, 90.....	-0.2 +/- 0.6	pci/g	0.2 +/- 0.7	pci/g	-0.3 +/- 0.6	pci/g
Plutonium 239, 240.....	0.00 +/- 0.09	pci/g	0.24 +/- 0.12	pci/g	0.13 +/- 0.11	pci/g
Americium 241.....	0.02 +/- 0.06	pci/g	0.07 +/- 0.09	pci/g	0.09 +/- 0.07	pci/g
Cesium 137.....						
Tritium.....	< .59	pci/g	< .61	pci/g	< .61	pci/g

Sample Information

RFW Batch ID:	2000-000-080	2000-000-081	2000-000-082
Customer ID:	SP108705DH	SP108707DH	SP1087090K
Matrix:	Soil	Soil	Soil

Radio Chemistry

Gross Alpha.....	19 +/- 13	pci/g	32 +/- 15	pci/g	16 +/- 12	pci/g
Gross Beta.....	22 +/- 6	pci/g	22 +/- 6	pci/g	29 +/- 7	pci/g
Uranium 233, 234.....	1.0 +/- 0.2	pci/g	0.66 +/- 0.13	pci/g	1.0 +/- 0.2	pci/g
Uranium 235.....						
Uranium 238.....	0.68 +/- 0.14	pci/g	0.59 +/- 0.12	pci/g	0.97 +/- 0.19	pci/g
Strontium 89, 90.....	0.1 +/- 0.7	pci/g	-0.3 +/- 0.7	pci/g	1.1 +/- 0.9	pci/g
Plutonium 239, 240.....	0.06 +/- 0.13	pci/g	0.00 +/- 0.09	pci/g	0.03 +/- 0.09	pci/g
Americium 241.....	0.16 +/- 0.09	pci/g	0.06 +/- 0.06	pci/g	0.07 +/- 0.06	pci/g
Cesium 137.....						
Tritium.....	< .63	pci/g	< .63	pci/g	< .58	pci/g

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RFW Batch Number: Client: ROCKWELL (ROCKY FLATS) Page: 12

Sample Information

RFW Batch ID:	2000-000-083	2000-000-084
Customer ID:	SP108711DH	SP108713DH
Matrix:	Soil	Soil

Radio Chemistry

Gross Alpha.....	42 +/- 16	pci/g	19 +/- 13	pci/g	20 +/- 13	pci/g
Gross Beta.....	20 +/- 6	pci/g	27 +/- 7	pci/g	22 +/- 6	pci/g
Uranium 233, 234.....	0.49 +/- 0.13	pci/g	0.45 +/- 0.16	pci/g	0.63 +/- 0.15	pci/g
Uranium 235.....						
Uranium 238.....	0.64 +/- 0.14	pci/g	0.73 +/- 0.18	pci/g	0.70 +/- 0.16	pci/g
Strontium 89, 90.....	-0.4 +/- 0.6	pci/g	0.0 +/- 0.6	pci/g	-0.2 +/- 0.6	pci/g
Plutonium 239, 240.....	0.00 +/- 0.09	pci/g	0.03 +/- 0.09	pci/g	-0.01 +/- 0.08	pci/g
Americium 241.....	0.00 +/- 0.04	pci/g	0.01 +/- 0.05	pci/g	0.03 +/- 0.06	pci/g
Cesium 137.....						
Tritium.....	0.65 +/- 0.28	pci/g	< .64	pci/g	< .63	pci/g

Sample Information

RFW Batch ID:	2000-000-040	2000-000-042
Customer ID:	SP108717DH	SP108719DH
Matrix:	Soil	Soil

Radio Chemistry

Gross Alpha.....	21 +/- 10	pci/g	32 +/- 12	pci/g	28 +/- 11	pci/g
Gross Beta.....	22 +/- 6	pci/g	17 +/- 6	pci/g	24 +/- 6	pci/g
Uranium 233, 234.....	1.0 +/- 0.2	pci/g	1.4 +/- 0.2	pci/g	1.1 +/- 0.2	pci/g
Uranium 235.....						
Uranium 238.....	0.96 +/- 0.17	pci/g	1.4 +/- 0.2	pci/g	0.99 +/- 0.19	pci/g
Strontium 89, 90.....	-0.3 +/- 0.5	pci/g	-0.3 +/- 0.7	pci/g	0.1 +/- 0.6	pci/g
Plutonium 239, 240.....	0.04 +/- 0.11	pci/g	0.01 +/- 0.10	pci/g	-0.02 +/- 0.08	pci/g
Americium 241.....	-0.03 +/- 0.04	pci/g	0.11 +/- 0.09	pci/g	0.00 +/- 0.06	pci/g
Cesium 137.....						
Tritium.....	< .61	pci/g	< .63	pci/g	< .60	pci/g

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DATA SUMMARY REPORT

RFW Batch Number: Client: ROCKWELL (ROCKY FLATS) Page: 13

Sample Information

RFW Batch ID:	2000-000-044	2000-000-045	2000-000-022
Customer ID:	SP108723DH	SP108724DH	SP11870008
Matrix:	Soil	Soil	Soil

Radio Chemistry

Gross Alpha.....	24 +/- 11	pci/g	32 +/- 12	pci/g	23 +/- 9	pci/g
Gross Beta.....	22 +/- 6	pci/g	19 +/- 6	pci/g	28 +/- 6	pci/g
Uranium 233, 234.....	1.2 +/- 0.2	pci/g	0.48 +/- 0.13	pci/g	0.77 +/- 0.21	pci/g
Uranium 235.....						
Uranium 238.....	1.1 +/- 0.2	pci/g	0.58 +/- 0.14	pci/g	0.83 +/- 0.21	pci/g
Strontium 89, 90.....	0.4 +/- 0.7	pci/g	-0.1 +/- 0.7	pci/g	0.1 +/- 0.6	pci/g
Plutonium 239, 240.....	-0.04 +/- 0.08	pci/g	-0.06 +/- 0.10	pci/g	-0.04 +/- 0.10	pci/g
Americium 241.....	0.04 +/- 0.06	pci/g	-0.02 +/- 0.05	pci/g	-0.01 +/- 0.03	pci/g
Cesium 137.....						
Tritium.....	0.60 +/- 0.27	pci/g	< .59	pci/g	< .88	pci/g

Sample Information

RFW Batch ID:	2000-000-069	2000-000-023	2000-000-024
Customer ID:	SP118708DH	SP118711DH	SP118714DH
Matrix:	Soil	Soil	Soil

Radio Chemistry

Gross Alpha.....	36 +/- 12	pci/g	30 +/- 13	pci/g	30 +/- 12	pci/g
Gross Beta.....	32 +/- 6	pci/g	25 +/- 6	pci/g	24 +/- 6	pci/g
Uranium 233, 234.....	1.2 +/- 0.2	pci/g	1.1 +/- 0.3	pci/g	0.84 +/- 0.20	pci/g
Uranium 235.....						
Uranium 238.....	1.2 +/- 0.2	pci/g	1.3 +/- 0.3	pci/g	0.83 +/- 0.19	pci/g
Strontium 89, 90.....	-0.3 +/- 0.8	pci/g	0.1 +/- 0.4	pci/g	0.1 +/- 0.5	pci/g
Plutonium 239, 240.....	0.02 +/- 0.12	pci/g	-0.01 +/- 0.11	pci/g	-0.02 +/- 0.09	pci/g
Americium 241.....	0.02 +/- 0.07	pci/g	0.00 +/- 0.06	pci/g	-0.04 +/- 0.05	pci/g
Cesium 137.....						
Tritium.....	< .66	pci/g	< .60	pci/g	< .58	pci/g

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RFW Batch Number: Client: ROCKWELL (ROCKY FLATS) Page: 14

Sample Information

RFW Batch ID:	2000-000-025	2000-000-026	2000-000-027
Customer ID:	SP118716DH	SP118719DH	SP118721DH
Matrix:	Soil	Soil	Soil

Radio Chemistry

Gross Alpha.....	20 +/- 10	pci/g	38 +/- 11	pci/g	32 +/- 10	pci/g
Gross Beta.....	19 +/- 6	pci/g	30 +/- 7	pci/g	28 +/- 6	pci/g
Uranium 233, 234.....	1.7 +/- 0.2	pci/g	1.3 +/- 0.2	pci/g	0.87 +/- 0.23	pci/g
Uranium 235.....						
Uranium 238.....	1.7 +/- 0.2	pci/g	1.4 +/- 0.2	pci/g	0.86 +/- 0.22	pci/g
Strontium 89, 90.....	0.0 +/- 0.4	pci/g	0.0 +/- 0.4	pci/g	0.3 +/- 0.5	pci/g
Plutonium 239, 240.....	-0.04 +/- 0.09	pci/g	0.00 +/- 0.10	pci/g	-0.06 +/- 0.08	pci/g
Americium 241.....	0.02 +/- 0.06	pci/g	0.01 +/- 0.06	pci/g	-0.03 +/- 0.05	pci/g
Cesium 137.....						
Tritium.....	< .66	pci/g	< .58	pci/g	< .58	pci/g

Sample Information

RFW Batch ID:	2000-000-028	2000-000-029	2000-000-031
Customer ID:	SP118724DH	SP118726DH	SP118729DH
Matrix:	Soil	Soil	Soil

Radio Chemistry

Gross Alpha.....	34 +/- 12	pci/g	24 +/- 11	pci/g	21 +/- 11	pci/g
Gross Beta.....	29 +/- 6	pci/g	32 +/- 6	pci/g	31 +/- 6	pci/g
Uranium 233, 234.....	1.1 +/- 0.2	pci/g	1.2 +/- 0.2	pci/g	0.84 +/- 0.16	pci/g
Uranium 235.....						
Uranium 238.....	0.91 +/- 0.19	pci/g	1.1 +/- 0.2	pci/g	0.91 +/- 0.17	pci/g
Strontium 89, 90.....	0.3 +/- 0.4	pci/g	0.1 +/- 0.4	pci/g	0.1 +/- 0.6	pci/g
Plutonium 239, 240.....	-0.02 +/- 0.09	pci/g	0.05 +/- 0.11	pci/g	-0.01 +/- 0.10	pci/g
Americium 241.....	-0.04 +/- 0.05	pci/g	0.00 +/- 0.06	pci/g	-0.02 +/- 0.06	pci/g
Cesium 137.....						
Tritium.....	< .58	pci/g	< .66	pci/g	< .63	pci/g

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RADIOCHEMISTRY
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RFW Batch Number: Client: ROCKWELL (ROCKY FLATS) Page: 15

Sample Information

RFW Batch ID:	2000-000-088	2000-000-089	2000-000-038
Customer ID:	SP12870009	SP12870916	SP128716DH
Matrix:	Soil	Soil	Soil

Radio Chemistry

Gross Alpha.....	24 +/- 10	pci/g	12 +/- 9	pci/g	9 +/- 12	pci/g
Gross Beta.....	27 +/- 6	pci/g	23 +/- 6	pci/g	23 +/- 7	pci/g
Uranium 233, 234.....	1.1 +/- 0.2	pci/g	1.2 +/- 0.2	pci/g	0.86 +/- 0.16	pci/g
Uranium 235.....						
Uranium 238.....	1.1 +/- 0.2	pci/g	1.1 +/- 0.2	pci/g	0.77 +/- 0.15	pci/g
Strontium 89, 90.....	-0.2 +/- 0.6	pci/g	-0.1 +/- 0.6	pci/g	0.2 +/- 0.5	pci/g
Plutonium 239, 240.....	0.01 +/- 0.07	pci/g	0.01 +/- 0.07	pci/g	-0.05 +/- 0.07	pci/g
Americium 241.....	0.00 +/- 0.06	pci/g	0.05 +/- 0.06	pci/g	0.03 +/- 0.05	pci/g
Cesium 137.....						
Tritium.....	< .61	pci/g	< .61	pci/g	< .61	pci/g

Sample Information

RFW Batch ID:	2000-000-039	2000-000-090	2000-000-091
Customer ID:	SP128719DH	SP128721DH	SP128724DH
Matrix:	Soil	Soil	Soil

Radio Chemistry

Gross Alpha.....	10 +/- 11	pci/g	19 +/- 10	pci/g	12 +/- 9	pci/g
Gross Beta.....	22 +/- 6	pci/g	28 +/- 6	pci/g	6.6 +/- 5.5	pci/g
Uranium 233, 234.....	0.51 +/- 0.12	pci/g	0.85 +/- 0.16	pci/g	0.38 +/- 0.12	pci/g
Uranium 235.....						
Uranium 238.....	0.76 +/- 0.15	pci/g	0.84 +/- 0.16	pci/g	0.57 +/- 0.15	pci/g
Strontium 89, 90.....	0.1 +/- 0.5	pci/g	-0.4 +/- 0.6	pci/g	0.0 +/- 0.5	pci/g
Plutonium 239, 240.....	0.03 +/- 0.10	pci/g	0.00 +/- 0.09	pci/g	-0.01 +/- 0.09	pci/g
Americium 241.....	0.00 +/- 0.04	pci/g	-0.01 +/- 0.06	pci/g	0.03 +/- 0.06	pci/g
Cesium 137.....						
Tritium.....	< .62	pci/g	< .59	pci/g	< .63	pci/g

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RADIOCHEMISTRY
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RFW Batch Number: Client: ROCKWELL (ROCKY FLATS) Page: 16

Sample Information

RFW Batch ID:	2000-000-092	2000-000-093	2000-000-094
Customer ID:	SP128726DH	SP128729DH	SP128731DH
Matrix:	Soil	Soil	Soil

Radio Chemistry

Gross Alpha.....	21 +/- 10	pci/g	32 +/- 12	pci/g	28 +/- 11	pci/g
Gross Beta.....	15 +/- 6	pci/g	31 +/- 7	pci/g	28 +/- 6	pci/g
Uranium 233, 234.....	0.83 +/- 0.16	pci/g	1.7 +/- 0.2	pci/g	1.6 +/- 0.2	pci/g
Uranium 235.....						
Uranium 238.....	0.86 +/- 0.16	pci/g	1.5 +/- 0.2	pci/g	1.4 +/- 0.2	pci/g
Strontium 89, 90.....	-0.2 +/- 0.8	pci/g	-0.5 +/- 0.6	pci/g	0.3 +/- 0.9	pci/g
Plutonium 239, 240.....	-0.01 +/- 0.07	pci/g	0.01 +/- 0.10	pci/g	0.02 +/- 0.09	pci/g
Americium 241.....	0.03 +/- 0.09	pci/g	0.02 +/- 0.07	pci/g	-0.02 +/- 0.05	pci/g
Cesium 137.....						
Tritium.....	< .61	pci/g	< .61	pci/g	< .61	pci/g

Sample Information

RFW Batch ID:	2000-000-095	2000-000-096	2000-000-097
Customer ID:	SP128734DH	SP128739DH	SP128741DH
Matrix:	Soil	Soil	Soil

Radio Chemistry

Gross Alpha.....	30 +/- 11	pci/g	39 +/- 12	pci/g	34 +/- 12	pci/g
Gross Beta.....	27 +/- 6	pci/g	24 +/- 6	pci/g	21 +/- 6	pci/g
Uranium 233, 234.....	1.5 +/- 0.2	pci/g	1.7 +/- 0.3	pci/g	1.2 +/- 0.2	pci/g
Uranium 235.....						
Uranium 238.....	1.3 +/- 0.2	pci/g	1.6 +/- 0.2	pci/g	1.1 +/- 0.2	pci/g
Strontium 89, 90.....	0.8 +/- 0.8	pci/g	-0.2 +/- 0.6	pci/g	0.1 +/- 0.5	pci/g
Plutonium 239, 240.....	0.02 +/- 0.10	pci/g	0.01 +/- 0.09	pci/g	-0.03 +/- 0.08	pci/g
Americium 241.....	-0.02 +/- 0.05	pci/g	-0.03 +/- 0.04	pci/g	-0.03 +/- 0.04	pci/g
Cesium 137.....						
Tritium.....	< .64	pci/g	< .61	pci/g	< .64	pci/g

SOLAR POND BOREHOLE SAMPLES
RADIOCHEMISTRY
DATA SUMMARY REPORT

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RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

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Sample Information

RFW Batch ID:	2000-000-070	2000-000-071	2000-000-072
Customer ID:	SP138700UC	SP138701CT	SP138703BR
Matrix:	Soil	Soil	Soil

=====

Radio Chemistry

Gross Alpha.....	30 +/- 14	pci/g	30 +/- 14	pci/g	19 +/- 13	pci/g
Gross Beta.....	25 +/- 7	pci/g	22 +/- 6	pci/g	23 +/- 6	pci/g
Uranium 233, 234.....	0.77 +/- 0.18	pci/g	0.66 +/- 0.18	pci/g	1.3 +/- 0.2	pci/g
Uranium 235.....						
Uranium 238.....	0.93 +/- 0.19	pci/g	1.1 +/- 0.2	pci/g	1.5 +/- 0.2	pci/g
Strontium 89, 90.....	0.0 +/- 0.7	pci/g	0.5 +/- 0.9	pci/g	-0.4 +/- 0.5	pci/g
Plutonium 239, 240.....	0.05 +/- 0.12	pci/g	0.05 +/- 0.10	pci/g	-0.06 +/- 0.09	pci/g
Americium 241.....	-0.02 +/- 0.06	pci/g	-0.03 +/- 0.05	pci/g	-0.02 +/- 0.06	pci/g
Cesium 137.....						
Tritium.....	< .58	pci/g	< .58	pci/g	< .58	pci/g

=====

Sample Information

RFW Batch ID:	2000-000-073	2000-000-075	2000-000-076
Customer ID:	SP138706DH	SP138709DH	SP138711DH
Matrix:	Soil	Soil	Soil

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Radio Chemistry

Gross Alpha.....	29 +/- 10	pci/g	36 +/- 15	pci/g	16 +/- 12	pci/g
Gross Beta.....	22 +/- 6	pci/g	29 +/- 7	pci/g	18 +/- 6	pci/g
Uranium 233, 234.....	1.3 +/- 0.2	pci/g	1.2 +/- 0.2	pci/g	1.7 +/- 0.2	pci/g
Uranium 235.....						
Uranium 238.....	1.2 +/- 0.2	pci/g	1.3 +/- 0.2	pci/g	1.5 +/- 0.2	pci/g
Strontium 89, 90.....	0.0 +/- 0.6	pci/g	-0.3 +/- 0.7	pci/g	-0.4 +/- 0.6	pci/g
Plutonium 239, 240.....	-0.04 +/- 0.09	pci/g	-0.01 +/- 0.09	pci/g	0.02 +/- 0.10	pci/g
Americium 241.....	-0.03 +/- 0.06	pci/g	-0.02 +/- 0.06	pci/g	0.00 +/- 0.07	pci/g
Cesium 137.....						
Tritium.....	< .58	pci/g	< .66	pci/g	< .58	pci/g

SOLAR POND BOREHOLE SAMPLES
RADIOCHEMISTRY
DATA SUMMARY REPORT

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RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

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Sample Information

RFW Batch ID:	2000-000-074	2000-000-098	2000-000-046
Customer ID:	SP138760UP	SP148702CT	SP148704BR
Matrix:	Soil	Soil	Soil

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Radio Chemistry

Gross Alpha.....	27 +/- 14	pci/g	26 +/- 11	pci/g	31 +/- 12	pci/g
Gross Beta.....	22 +/- 6	pci/g	23 +/- 6	pci/g	20 +/- 6	pci/g
Uranium 233, 234.....	1.2 +/- 0.2	pci/g	0.93 +/- 0.17	pci/g	0.67 +/- 0.14	pci/g
Uranium 235.....						
Uranium 238.....	1.2 +/- 0.2	pci/g	1.1 +/- 0.2	pci/g	0.64 +/- 0.14	pci/g
Strontium 89, 90.....	0.0 +/- 0.8	pci/g	0.1 +/- 0.7	pci/g	-0.1 +/- 0.6	pci/g
Plutonium 239, 240.....	0.01 +/- 0.10	pci/g	-0.02 +/- 0.09	pci/g	-0.04 +/- 0.08	pci/g
Americium 241.....	0.03 +/- 0.07	pci/g	-0.03 +/- 0.05	pci/g	-0.06 +/- 0.08	pci/g
Cesium 137.....						
Tritium.....	< .61	pci/g	< .61	pci/g	< .60	pci/g

=====
Sample Information

RFW Batch ID:	2000-000-048	2000-000-129	2000-000-047
Customer ID:	SP1587008D	SP158702DH	SP158708DH
Matrix:	Soil		Soil

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Radio Chemistry

Gross Alpha.....	10 +/- 9	pci/g	18 +/- 10	pci/g
Gross Beta.....	21 +/- 6	pci/g	15 +/- 6	pci/g
Uranium 233, 234.....	0.71 +/- 0.16	pci/g	0.64 +/- 0.14	pci/g
Uranium 235.....				
Uranium 238.....	0.61 +/- 0.14	pci/g	0.51 +/- 0.13	pci/g
Strontium 89, 90.....	-0.1 +/- 0.6	pci/g	0.2 +/- 0.5	pci/g
Plutonium 239, 240.....	-0.03 +/- 0.09	pci/g	0.04 +/- 0.10	pci/g
Americium 241.....	-0.04 +/- 0.09	pci/g	-0.04 +/- 0.09	pci/g
Cesium 137.....				
Tritium.....	< .60	pci/g	< .60	pci/g
			< .59	pci/g

SOLAR POND BOREHOLE SAMPLES
RADIOCHEMISTRY
DATA SUMMARY REPORT

RFW Batch Number: Client: ROCKWELL (ROCKY FLATS) Page: 19

Sample Information

RFW Batch ID:	2000-000-049	2000-000-050	2000-000-051
Customer ID:	SP158710DH	SP158712WT	SP158714CT
Matrix:	Soil	Soil	Soil

Radio Chemistry

Gross Alpha.....	24 +/- 10	pci/g	31 +/- 10	pci/g	28 +/- 10	pci/g
Gross Beta.....	10 +/- 6	pci/g	21 +/- 6	pci/g	30 +/- 6	pci/g
Uranium 233, 234.....	0.82 +/- 0.17	pci/g	1.2 +/- 0.2	pci/g	1.1 +/- 0.2	pci/g
Uranium 235.....						
Uranium 238.....	0.60 +/- 0.15	pci/g	1.3 +/- 0.2	pci/g	1.1 +/- 0.2	pci/g
Strontium 89, 90.....	0.2 +/- 0.7	pci/g	-0.2 +/- 0.6	pci/g	0.3 +/- 0.7	pci/g
Plutonium 239, 240.....	-0.02 +/- 0.09	pci/g	-0.04 +/- 0.07	pci/g	-0.02 +/- 0.08	pci/g
Americium 241.....	0.00 +/- 0.10	pci/g	0.03 +/- 0.10	pci/g	0.05 +/- 0.10	pci/g
Cesium 137.....						
Tritium.....	< .60	pci/g	< .61	pci/g	< .64	pci/g

Sample Information

RFW Batch ID:	2000-000-052	2000-000-121	2000-000-122
Customer ID:	SP158717BR	SP168702FS	SP168708UC
Matrix:	Soil	Soil	Soil

Radio Chemistry

Gross Alpha.....	29 +/- 10	pci/g	59 +/- 18	pci/g	23 +/- 13	pci/g
Gross Beta.....	31 +/- 6	pci/g	31 +/- 7	pci/g	19 +/- 6	pci/g
Uranium 233, 234.....	1.1 +/- 0.2	pci/g	1.1 +/- 0.2	pci/g	0.49 +/- 0.12	pci/g
Uranium 235.....						
Uranium 238.....	1.2 +/- 0.2	pci/g	0.78 +/- 0.16	pci/g	0.65 +/- 0.14	pci/g
Strontium 89, 90.....	0.2 +/- 0.8	pci/g	-0.4 +/- 0.6	pci/g	-0.4 +/- 0.7	pci/g
Plutonium 239, 240.....	-0.02 +/- 0.08	pci/g	9.0 +/- 0.6	pci/g	0.00 +/- 0.14	pci/g
Americium 241.....	0.01 +/- 0.10	pci/g	0.96 +/- 0.26	pci/g	0.00 +/- 0.09	pci/g
Cesium 137.....						
Tritium.....	< .61	pci/g	< .60	pci/g	< .63	pci/g

SOLAR POND BOREHOLE SAMPLES
RADIOCHEMISTRY
DATA SUMMARY REPORT

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RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

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Sample Information

RFW Batch ID:	2000-000-123	2000-000-124
Customer ID:	SP168710CT	SP168711BR
Matrix:	Soil	Soil

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Radio Chemistry

Gross Alpha.....	28 +/- 14	pCi/g	40 +/- 15	pCi/g
Gross Beta.....	25 +/- 7	pCi/g	24 +/- 6	pCi/g
Uranium 233, 234.....	0.62 +/- 0.13	pCi/g	0.55 +/- 0.13	pCi/g
Uranium 235.....				
Uranium 238.....	0.55 +/- 0.13	pCi/g	0.59 +/- 0.14	pCi/g
Strontium 89, 90.....	-0.1 +/- 0.5	pCi/g	0.0 +/- 0.6	pCi/g
Plutonium 239, 240.....	-0.05 +/- 0.14	pCi/g	-0.01 +/- 0.15	pCi/g
Americium 241.....	0.03 +/- 0.09	pCi/g	0.02 +/- 0.10	pCi/g
Cesium 137.....				
Tritium.....	< .60	pCi/g	< .63	pCi/g

List: Customer ID's: All

RFW Batch ID	Customer ID	Laboratory ID
1000-000-198	C188608860	22578-2-1
1000-000-199	C188608861	22578-2-2
1000-000-200	C188608862	22579-1-1
1000-000-201	C208609860	22674-3-1
1000-000-202	C208609861	22674-3-2
1000-000-203	C208609862	22674-3-3
1000-000-204	C228609860	22673-3-1
1000-000-205	C228609861	22673-3-2
1000-000-206	C228609862	22673-3-3
1000-000-207	C258608860	22676-1-1
1000-000-208	C258608861	22606-2-1
1000-000-209	C258608862	22606-2-2
1000-000-210	C278609860	22675-3-1
1000-000-211	C278609861	22675-3-2
1000-000-212	C278609862	22675-3-3

SOLAR POND CORE SAMPLES
RADIOCHEMISTRY
DATA SUMMARY REPORT

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

Page: 1

Sample Information

RFW Batch ID:	1000-000-198	1000-000-199	1000-000-200
Customer ID:	C188608860	C188608861	C188608862
Matrix:	Soil	Soil	Soil

Radio Chemistry

Gross Alpha.....	15 +/- 9	pci/g	19 +/- 9	pci/g	27 +/- 10	pci/g
Gross Beta.....	27 +/- 6	pci/g	22 +/- 6	pci/g	33 +/- 6	pci/g
Uranium 233, 234.....	1.1 +/- 0.2	pci/g	0.83 +/- 0.20	pci/g	1.0 +/- 0.2	pci/g
Uranium 235.....	NR		NR		NR	
Uranium 238.....	1.2 +/- 0.2	pci/g	1.2 +/- 0.2	pci/g	1.0 +/- 0.2	pci/g
Strontium 89, 90.....	NR		NR		NR	
Plutonium 239, 240.....	0.01 +/- 0.02	pci/g	0.01 +/- 0.02	pci/g	-0.01 +/- 0.01	pci/g
Americium 241.....	0.00 +/- 0.01	pci/g	0.01 +/- 0.01	pci/g	0.00 +/- 0.01	pci/g
Cesium 137.....	NR		NR		NR	
Tritium.....	0.19 +/- 0.21	pci/ml	-0.07 +/- 0.21	pci/ml	-0.02 +/- 0.21	pci/ml

Sample Information

RFW Batch ID:	1000-000-201	1000-000-202	1000-000-203
Customer ID:	C208609860	C208609861	C208609862
Matrix:			

Radio Chemistry

Gross Alpha.....	43 +/- 13	pci/g	28 +/- 11	pci/g	39 +/- 12	pci/g
Gross Beta.....	36 +/- 7	pci/g	17 +/- 6	pci/g	34 +/- 7	pci/g
Uranium 233, 234.....	1.3 +/- 0.2	pci/g	0.44 +/- 0.15	pci/g	1.0 +/- 0.2	pci/g
Uranium 235.....	NR		NR		NR	
Uranium 238.....	2.7 +/- 0.3	pci/g	1.4 +/- 0.3	pci/g	2.1 +/- 0.4	pci/g
Strontium 89, 90.....	NR		NR		NR	
Plutonium 239, 240.....	0.37 +/- 0.06	pci/g	0.00 +/- 0.02	pci/g	-0.01 +/- 0.02	pci/g
Americium 241.....	0.30 +/- 0.06	pci/g	0.00 +/- 0.01	pci/g	0.01 +/- 0.03	pci/g
Cesium 137.....	NR		NR		NR	
Tritium.....	0.28 +/- 0.22	pci/ml	3.9 +/- 0.3	pci/ml	0.06 +/- 0.21	pci/ml

SOLAR POND CORE SAMPLES
RADIOCHEMISTRY
DATA SUMMARY REPORT

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

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Sample Information

RFW Batch ID:	1000-000-204	1000-000-205	1000-000-206
Customer ID:	C228609860	C228609861	C228609862
Matrix:	Soil	Soil	Soil

Radio Chemistry

Gross Alpha.....	23 +/- 13	pci/g	29 +/- 14	pci/g	27 +/- 14	pci/g
Gross Beta.....	40 +/- 7	pci/g	27 +/- 6	pci/g	25 +/- 6	pci/g
Uranium 233, 234.....	2.0 +/- 0.5	pci/g	0.96 +/- 0.32	pci/g	0.71 +/- 0.26	pci/g
Uranium 235.....	NR		NR		NR	
Uranium 238.....	1.7 +/- 0.5	pci/g	1.8 +/- 0.4	pci/g	1.2 +/- 0.3	pci/g
Strontium 89, 90.....	NR		NR		NR	
Plutonium 239, 240.....	0.06 +/- 0.03	pci/g	0.00 +/- 0.02	pci/g	0.00 +/- 0.02	pci/g
Americium 241.....	0.01 +/- 0.02	pci/g	0.00 +/- 0.01	pci/g	0.00 +/- 0.02	pci/g
Cesium 137.....	NR		NR		NR	
Tritium.....	1.8 +/- 0.2	pci/ml	2.0 +/- 0.3	pci/ml	1.7 +/- 0.2	pci/ml

Sample Information

RFW Batch ID:	1000-000-207	1000-000-208	1000-000-209
Customer ID:	C258608860	C258608861	C258608862
Matrix:	Soil	Soil	Soil

Radio Chemistry

Gross Alpha.....	26 +/- 11	pci/g	46 +/- 16	pci/g	38 +/- 15	pci/g
Gross Beta.....	19 +/- 6	pci/g	25 +/- 6	pci/g	22 +/- 6	pci/g
Uranium 233, 234.....	0.69 +/- 0.14	pci/g	0.92 +/- 0.22	pci/g	0.81 +/- 0.17	pci/g
Uranium 235.....	NR		NR		NR	
Uranium 238.....	0.82 +/- 0.15	pci/g	1.3 +/- 0.3	pci/g	0.91 +/- 0.18	pci/g
Strontium 89, 90.....	NR		NR		NR	
Plutonium 239, 240.....	0.42 +/- 0.05	pci/g	0.01 +/- 0.02	pci/g	0.02 +/- 0.02	pci/g
Americium 241.....	0.09 +/- 0.04	pci/g	0.00 +/- 0.01	pci/g	0.06 +/- 0.04	pci/g
Cesium 137.....	NR		NR		NR	
Tritium.....	3.3 +/- 0.3	pci/ml	1.1 +/- 0.2	pci/ml	0.06 +/- 0.22	pci/ml

SOLAR POND CORE SAMPLES
RADIOCHEMISTRY
DATA SUMMARY REPORT

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RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

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Sample Information

RFW Batch ID:	1000-000-210	1000-000-211	1000-000-212
Customer ID:	C278609860	C278609861	C278609862
Matrix:			

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Radio Chemistry

Gross Alpha.....	68 +/- 15	pCi/g	31 +/- 12	pCi/g	23 +/- 11	pCi/g
Gross Beta.....	46 +/- 7	pCi/g	28 +/- 6	pCi/g	20 +/- 6	pCi/g
Uranium 233, 234.....	1.5 +/- 0.3	pCi/g	1.1 +/- 0.2	pCi/g	0.8 +/- 0.2	pCi/g
Uranium 235.....	NR		NR		NR	
Uranium 238.....	1.3 +/- 0.2	pCi/g	1.1 +/- 0.2	pCi/g	1.2 +/- 0.2	pCi/g
Strontium 89, 90.....	NR		NR		NR	
Plutonium 239, 240.....	-0.01 +/- 0.02	pCi/g	-0.01 +/- 0.02	pCi/g	-0.01 +/- 0.02	pCi/g
Americium 241.....	0.01 +/- 0.02	pCi/g	-0.03 +/- 0.06	pCi/g	-0.05 +/- 0.06	pCi/g
Cesium 137.....	NR		NR		NR	
Tritium.....	11 +/- 1	pCi/ml	3.0 +/- 0.3	pCi/ml	1.5 +/- 0.2	pCi/ml

INORGANICS

**SOLAR POND CLOSURE CHARACTERIZATION REPORT
ROCKY FLATS PLANT, GOLDEN, COLORADO**

1 JULY 1988

APPENDICES

List: Customer ID's: All

RFW Batch ID	Customer ID	Laboratory ID
BH87-881-010	SP018700FS	
BH87-881-011	SP018704DH	
BH87-881-012	SP018705DH	
BH87-881-001	SP018711DH	
BH87-881-007	SP018713DH	
BH87-881-057	SP02870008	
BH87-881-003	SP028708UC	
BH87-881-004	SP028711CT	
BH87-881-005	SP028713BR	
BH87-881-002	SP038711DH	
BH87-881-008	SP038713CT	
BH87-881-009	SP038716BR	
BH87-881-020	SP0487004D	
BH87-881-018	SP048702DH	
BH87-881-019	SP048704DH	
BH87-881-021	SP048707DH	
BH87-881-026	SP048712DH	
BH87-881-027	SP048715FS	
BH87-881-028	SP048717DH	
BH87-881-029	SP048720DH	
BH87-881-030	SP048722DH	
BH87-881-031	SP048725DH	
BH87-881-032	SP048727DH	
BH87-881-033	SP048730DH	
BH87-881-044	SP048732DH	
BH87-881-054	SP058702DH	
BH87-881-055	SP058704DH	
BH87-881-056	SP058707DH	
BH87-881-058	SP058710DH	
BH87-881-059	SP058712DH	
BH87-881-060	SP058716DH	
BH87-881-035	SP068702FS	
BH87-881-036	SP068708DH	
BH87-881-037	SP068711DH	
BH87-881-038	SP068713DH	
BH87-881-039	SP068716DH	
BH87-881-040	SP068718DH	
BH87-881-041	SP068721DH	
BH87-881-042	SP068724DH	
BH87-881-043	SP068726DH	
BH87-881-097	SP078700DH	
BH87-881-098	SP078702DH	
BH87-881-099	SP078708FS	
BH87-881-100	SP078711DH	
BH87-881-101	SP078713DH	
BH87-881-107	SP078716DH	
BH87-881-108	SP078718WT	
BH87-881-109	SP078721CT	
BH87-881-110	SP078723BR	
BH87-881-111	SP078726DH	
BH87-881-006	SP088703UC	

List: Customer ID's: All

RFW Batch ID	Customer ID	Laboratory ID
BH87-881-013	SP088706CT	
BH87-881-014	SP088709BR	
BH87-881-023	SP098706CT	
BH87-881-024	SP098708BR	
BH87-881-071	SP108700DH	
BH87-881-087	SP1087017D	
BH87-881-072	SP108702DH	
BH87-881-073	SP108704BR	
BH87-881-074	SP108705DH	
BH87-881-075	SP108707DH	
BH87-881-077	SP108711DH	
BH87-881-078	SP108713DH	
BH87-881-079	SP108715DH	
BH87-881-086	SP108717DH	
BH87-881-088	SP108719DH	
BH87-881-089	SP108721WT	
BH87-881-095	SP108723DH	
BH87-881-096	SP108724DH	
BH87-881-045	SP11870008	
BH87-881-034	SP118708DH	
BH87-881-046	SP118711DH	
BH87-881-047	SP118714DH	
BH87-881-048	SP118716DH	
BH87-881-049	SP118719DH	
BH87-881-050	SP118721DH	
BH87-881-051	SP118724DH	
BH87-881-052	SP118726DH	
BH87-881-061	SP118729DH	
BH87-881-080	SP12870009	
BH87-881-062	SP128700UC	
BH87-881-081	SP12870916	
BH87-881-069	SP128716DH	
BH87-881-070	SP128719DH	
BH87-881-082	SP128721DH	
BH87-881-083	SP128724DH	
BH87-881-084	SP128726DH	
BH87-881-085	SP128729DH	
BH87-881-090	SP128731DH	
BH87-881-091	SP128734DH	
BH87-881-092	SP128739DH	
BH87-881-093	SP128741DH	
BH87-881-063	SP138701CT	
BH87-881-064	SP138703BR	
BH87-881-065	SP138706DH	
BH87-881-067	SP138709DH	
BH87-881-068	SP138711DH	
BH87-881-066	SP13876DUP	
BH87-881-094	SP148702CT	
BH87-881-102	SP148704BR	
BH87-881-105	SP1587008D	
BH87-881-103	SP158702DH	

List: Customer ID's: All

RFW Batch ID	Customer ID	Laboratory ID
BH87-881-104	SP158708DH	
BH87-881-106	SP158710DH	
BH87-881-112	SP158712WT	
BH87-881-113	SP158714CT	
BH87-881-114	SP158717BR	
BH87-881-120	SP168702FS	
BH87-881-121	SP168708UC	
BH87-881-122	SP168710CT	
BH87-881-123	SP168711BR	

SOLAR POND BOREHOLE SAMPLES
INORGANIC
DATA SUMMARY REPORT

RFW Batch Number: Client: ROCKWELL (ROCKY FLATS) Page: 1

Sample Information

RFW Batch ID:	BH87-881-010	BH87-881-011	BH87-881-012
Customer ID:	SP018700FS	SP018704DH	SP018705DH
Matrix:	Soil	Soil	Soil

Inorganics

CO ₃ = as CaCO ₃						
HCO ₃ - as CaCO ₃						
Chloride.....						
Sulfate.....						
pH.....	7.67	phunit	7.86	phunit	8.42	phunit
Fluoride.....						
Nitrate-Nitrite-Nitrogen.....	25	mg/kg	96	mg/kg	131	mg/kg
Sulfide.....	200 U	mg/kg	200 U	mg/kg	200 U	mg/kg
Cyanide, Total.....	3.9 U	mg/kg	4.0 U	mg/kg	4.2 U	mg/kg
Hexavalent Chromium (Cr+6).....						
Total Dissolved Solids.....						
Total Suspended Solids.....						
% Solids.....	85.8	%	83.8	%	80.9	%

Sample Information

RFW Batch ID:	BH87-881-001	BH87-881-007	BH87-881-057
Customer ID:	SP018711DH	SP018713DH	SP02870008
Matrix:	Soil	Soil	Soil

Inorganics

CO ₃ = as CaCO ₃						
HCO ₃ - as CaCO ₃						
Chloride.....						
Sulfate.....						
pH.....	7.70	phunit	8.08	phunit	7.77	phunit
Fluoride.....						
Nitrate-Nitrite-Nitrogen.....	4.0	mg/kg	8.0	mg/kg	9.0	mg/kg
Sulfide.....	200 U	mg/kg	200 U	mg/kg	200 U	mg/kg
Cyanide, Total.....	3.7 U	mg/kg	3.8 U	mg/kg	3.6 U	mg/kg
Hexavalent Chromium (Cr+6).....						
Total Dissolved Solids.....						
Total Suspended Solids.....						
% Solids.....	92.6	%	89.4	%	93.1	%

SOLAR POND BOREHOLE SAMPLES
INORGANIC
DATA SUMMARY REPORT

===== RFW Batch Number: Client: ROCKWELL (ROCKY FLATS) Page: 2 =====

Sample Information

RFW Batch ID:	BH87-881-003	BH87-881-004	BH87-881-005
Customer ID:	SP028708UC	SP028711CT	SP028713BR
Matrix:	Soil	Soil	Soil

Inorganics

CO ₃ = as CaCO ₃						
HCO ₃ - as CaCO ₃						
Chloride.....						
Sulfate.....						
pH.....	8.53	phunit	7.86	phunit	8.20	phunit
Fluoride.....						
Nitrate-Nitrite-Nitrogen.....	12	mg/kg	3.0	mg/kg	2.0	U mg/kg
Sulfide.....	200	U mg/kg	200	U mg/kg	200	U mg/kg
Cyanide, Total.....	3.9	U mg/kg	3.8	U mg/kg	3.7	U mg/kg
Hexavalent Chromium (Cr+6).....						
Total Dissolved Solids.....						
Total Suspended Solids.....						
% Solids.....	86.3	%	88.9	%	92.4	%

Sample Information

RFW Batch ID:	BH87-881-002	BH87-881-008	BH87-881-009
Customer ID:	SP038711DH	SP038713CT	SP038716BR
Matrix:	Soil	Soil	Soil

Inorganics

CO ₃ = as CaCO ₃						
HCO ₃ - as CaCO ₃						
Chloride.....						
Sulfate.....						
pH.....	4.76	phunit	8.63	phunit	8.17	phunit
Fluoride.....						
Nitrate-Nitrite-Nitrogen.....	200	mg/kg	186	mg/kg	260	mg/kg
Sulfide.....	200	U mg/kg	200	U mg/kg	200	U mg/kg
Cyanide, Total.....	3.7	U mg/kg	4.1	U mg/kg	4.0	U mg/kg
Hexavalent Chromium (Cr+6).....						
Total Dissolved Solids.....						
Total Suspended Solids.....						
% Solids.....	92.3	%	82.4	%	84.2	%

SOLAR POND BOREHOLE SAMPLES
INORGANIC
DATA SUMMARY REPORT

RFW Batch Number: Client: ROCKWELL (ROCKY FLATS) Page: 3

Sample Information

RFW Batch ID:	BH87-881-020	BH87-881-018	BH87-881-019
Customer ID:	SP0487004D	SP048702DH	SP048704DH
Matrix:	Soil	Soil	Soil

Inorganics

CO ₃ = as CaCO ₃						
HCO ₃ - as CaCO ₃						
Chloride.....						
Sulfate.....						
pH.....	7.51	phunit	6.15	phunit	7.67	phunit
Fluoride.....						
Nitrate-Nitrite-Nitrogen.....	4.0	mg/kg			5.0	mg/kg
Sulfide.....	200 U	mg/kg	200 U	mg/kg	200 U	mg/kg
Cyanide, Total.....	4.0 U	mg/kg	8.7	mg/kg	3.6 U	mg/kg
Hexavalent Chromium (Cr+6).....						
Total Dissolved Solids.....						
Total Suspended Solids.....						
% Solids.....	82.7	%	92.8	%	93.8	%

Sample Information

RFW Batch ID:	BH87-881-021	BH87-881-026	BH87-881-027
Customer ID:	SP048707DH	SP048712DH	SP048715FS
Matrix:	Soil	Soil	Soil

Inorganics

CO ₃ = as CaCO ₃						
HCO ₃ - as CaCO ₃						
Chloride.....						
Sulfate.....						
pH.....	8.41	phunit	6.50	phunit	7.09	phunit
Fluoride.....						
Nitrate-Nitrite-Nitrogen.....	5.0	mg/kg	361	mg/kg	142	mg/kg
Sulfide.....	200 U	mg/kg	200 U	mg/kg	200 U	mg/kg
Cyanide, Total.....	3.8 U	mg/kg	4.0 U	mg/kg	4.1 U	mg/kg
Hexavalent Chromium (Cr+6).....						
Total Dissolved Solids.....						
Total Suspended Solids.....						
% Solids.....	87.5	%	81.7	%	82.4	%

SOLAR POND BOREHOLE SAMPLES
INORGANIC
DATA SUMMARY REPORT

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

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Sample Information

RFW Batch ID:	BH87-881-028	BH87-881-029
Customer ID:	SP04871DH	SP04872DH
Matrix:	Soil	Soil

Inorganics

CO ₃ = as CaCO ₃						
HCO ₃ - as CaCO ₃						
Chloride.....						
Sulfate.....						
pH.....	7.45	phunit	7.33	phunit	7.36	phunit
Fluoride.....						
Nitrate-Nitrite-Nitrogen.....	14	mg/kg	101	mg/kg	79	mg/kg
Sulfide.....	200	U	200	U	200	U
Cyanide, Total.....	4.1	U	4.0	U	4.2	U
Hexavalent Chromium (Cr+6).....						
Total Dissolved Solids.....						
Total Suspended Solids.....						
% Solids.....	82.9	%	84.2	%	81.1	%

Sample Information

RFW Batch ID:	BH87-881-031	BH87-881-032
Customer ID:	SP048725DH	SP048727DH
Matrix:	Soil	Soil

Inorganics

CO ₃ = as CaCO ₃						
HCO ₃ - as CaCO ₃						
Chloride.....						
Sulfate.....						
pH.....	7.79	phunit	8.00	phunit	8.13	phunit
Fluoride.....						
Nitrate-Nitrite-Nitrogen.....	13	mg/kg	2.0	U	2.0	mg/kg
Sulfide.....	200	U	200	U	200	U
Cyanide, Total.....	3.9	U	3.8	U	3.8	U
Hexavalent Chromium (Cr+6).....						
Total Dissolved Solids.....						
Total Suspended Solids.....						
% Solids.....	87.2	%	88.4	%	87.8	%

SOLAR POND BOREHOLE SAMPLES
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RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

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Sample Information

RFW Batch ID:	BH87-881-044	BH87-881-054	BH87-881-055
Customer ID:	SP048732DH	SP058702DH	SP058704DH
Matrix:	Soil	Soil	Soil

Inorganics

CO ₃ = as CaCO ₃						
HCO ₃ - as CaCO ₃						
Chloride.....						
Sulfate.....						
pH.....	7.27	phunit	6.70	phunit	6.30	phunit
Fluoride.....						
Nitrate-Nitrite-Nitrogen.....	25	mg/kg	8.0	mg/kg	2.0	U mg/kg
Sulfide.....	200	U mg/kg	200	U mg/kg	200	U mg/kg
Cyanide, Total.....	4.3	U mg/kg	5.3	mg/kg	4.1	U mg/kg
Hexavalent Chromium (Cr+6).....						
Total Dissolved Solids.....						
Total Suspended Solids.....						
% Solids.....	79.3	%	89.0	%	83.0	%

Sample Information

RFW Batch ID:	BH87-881-056	BH87-881-058	BH87-881-059
Customer ID:	SP058707DH	SP058710DH	SP058712DH
Matrix:	Soil	Soil	Soil

Inorganics

CO ₃ = as CaCO ₃						
HCO ₃ - as CaCO ₃						
Chloride.....						
Sulfate.....						
pH.....	7.60	phunit	8.50	phunit	8.60	phunit
Fluoride.....						
Nitrate-Nitrite-Nitrogen.....	9.0	mg/kg	345	mg/kg	705	mg/kg
Sulfide.....	200	U mg/kg	200	U mg/kg	200	U mg/kg
Cyanide, Total.....	3.7	U mg/kg	3.6	U mg/kg	4.2	U mg/kg
Hexavalent Chromium (Cr+6).....						
Total Dissolved Solids.....						
Total Suspended Solids.....						
% Solids.....	89.9	%	92.6	%	79.6	%

SOLAR POND BOREHOLE SAMPLES
INORGANIC
DATA SUMMARY REPORT

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RFW Batch Number: Client: ROCKWELL (ROCKY FLATS) Page: 6

Sample Information

RFW Batch ID:	BH87-881-060	BH87-881-035	BH87-881-036
Customer ID:	SP058716DH	SP068702FS	SP068708DH
Matrix:	Soil	Soil	Soil

Inorganics

CO ₃ = as CaCO ₃						
HCO ₃ - as CaCO ₃						
Chloride.....						
Sulfate.....						
pH.....	7.60	phunit	8.33	phunit	8.12	phunit
Fluoride.....						
Nitrate-Nitrite-Nitrogen.....	1480	mg/kg	307	mg/kg	22	mg/kg
Sulfide.....	200	U	200	U	200	U
Cyanide, Total.....	4.2	U	4.1	U	3.7	U
Hexavalent Chromium (Cr+6).....						
Total Dissolved Solids.....						
Total Suspended Solids.....						
% Solids.....	81.1	%	81.3	%	92.5	%

Sample Information

RFW Batch ID:	BH87-881-037	BH87-881-038	BH87-881-039
Customer ID:	SP068711DH	SP068713DH	SP068716DH
Matrix:	Soil	Soil	Soil

Inorganics

CO ₃ = as CaCO ₃						
HCO ₃ - as CaCO ₃						
Chloride.....						
Sulfate.....						
pH.....	8.62	phunit	8.88	phunit	9.00	phunit
Fluoride.....						
Nitrate-Nitrite-Nitrogen.....	2.0	U	2.0	U	2.0	U
Sulfide.....	200	U	200	U	200	U
Cyanide, Total.....	4.0	U	3.6	U	3.7	U
Hexavalent Chromium (Cr+6).....						
Total Dissolved Solids.....						
Total Suspended Solids.....						
% Solids.....	83.7	%	94.0	%	91.7	%

SOLAR POND BOREHOLE SAMPLES
INORGANIC
DATA SUMMARY REPORT

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RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

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Sample Information

RFW Batch ID:	BH87-881-040	BH87-881-041	BH87-881-042
Customer ID:	SP068718DH	SP068721DH	SP068724DH
Matrix:	Soil	Soil	Soil

Inorganics

CO ₃ = as CaCO ₃						
HCO ₃ - as CaCO ₃						
Chloride.....						
Sulfate.....						
pH.....	8.68	phunit	8.70	phunit	8.02	phunit
Fluoride.....						
Nitrate-Nitrite-Nitrogen.....	2.0	U mg/kg	2.0	U mg/kg	2.0	U mg/kg
Sulfide.....	200	U mg/kg	200	U mg/kg	200	U mg/kg
Cyanide, Total.....	4.1	U mg/kg	4.1	U mg/kg	4.0	U mg/kg
Hexavalent Chromium (Cr+6).....						
Total Dissolved Solids.....						
Total Suspended Solids.....						
% Solids.....	83.0	%	82.2	%	85.0	%

Sample Information

RFW Batch ID:	BH87-881-043	BH87-881-097	BH87-881-098
Customer ID:	SP068726DH	SP078700DH	SP078702DH
Matrix:	Soil	Soil	Soil

Inorganics

CO ₃ = as CaCO ₃						
HCO ₃ - as CaCO ₃						
Chloride.....						
Sulfate.....						
pH.....	8.34	phunit	8.32	phunit	8.34	phunit
Fluoride.....						
Nitrate-Nitrite-Nitrogen.....	4.0	mg/kg	2.0	U mg/kg	2.0	U mg/kg
Sulfide.....	200	U mg/kg	200	U mg/kg	200	U mg/kg
Cyanide, Total.....	4.1	U mg/kg	4.0	U mg/kg	3.9	U mg/kg
Hexavalent Chromium (Cr+6).....						
Total Dissolved Solids.....						
Total Suspended Solids.....						
% Solids.....	83.2	%	85.0	%	87.0	%

SOLAR POND BOREHOLE SAMPLES
INORGANIC
DATA SUMMARY REPORT

RFW Batch Number: Client: ROCKWELL (ROCKY FLATS) Page: 8

Sample Information

RFW Batch ID:	BH87-881-099	BH87-881-100
Customer ID:	SP078708FS	SP078711DH
Matrix:	Soil	Soil

Inorganics

CO ₃ = as CaCO ₃						
HCO ₃ - as CaCO ₃						
Chloride.....						
Sulfate.....						
pH.....	7.98	phunit	7.70	phunit	7.78	phunit
Fluoride.....						
Nitrate-Nitrite-Nitrogen.....	2.0	mg/kg	3.0	mg/kg	2.0	U mg/kg
Sulfide.....	200	U mg/kg	200	U mg/kg	200	U mg/kg
Cyanide, Total.....	4.1	U mg/kg	3.7	U mg/kg	4.0	U mg/kg
Hexavalent Chromium (Cr+6).....						
Total Dissolved Solids.....						
Total Suspended Solids.....						
% Solids.....	81.7	%	91.7	%	84.5	%

Sample Information

RFW Batch ID:	BH87-881-107	BH87-881-108
Customer ID:	SP078716DH	SP078718WT
Matrix:	Soil	Soil

Inorganics

CO ₃ = as CaCO ₃						
HCO ₃ - as CaCO ₃						
Chloride.....						
Sulfate.....						
pH.....	8.43	phunit	8.71	phunit	8.34	phunit
Fluoride.....						
Nitrate-Nitrite-Nitrogen.....	150	mg/kg	480	mg/kg	656	mg/kg
Sulfide.....	200	U mg/kg	200	U mg/kg	200	U mg/kg
Cyanide, Total.....	3.9	U mg/kg	3.8	U mg/kg	4.2	U mg/kg
Hexavalent Chromium (Cr+6).....						
Total Dissolved Solids.....						
Total Suspended Solids.....						
% Solids.....	87.7	%	88.4	%	80.0	%

SOLAR POND BOREHOLE SAMPLES

INORGANIC

DATA SUMMARY REPORT

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

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Sample Information

RFW Batch ID:	BH87-881-110	BH87-881-111	BH87-881-006
Customer ID:	SP078723BR	SP078726DH	SP088703UC
Matrix:	Soil	Soil	Soil

Inorganics

CO ₃ = as CaCO ₃						
HCO ₃ - as CaCO ₃						
Chloride.....						
Sulfate.....						
pH.....	7.73	phunit	7.89	phunit	7.91	phunit
Fluoride.....						
Nitrate-Nitrite-Nitrogen.....	58	mg/kg	2.0	mg/kg	511	mg/kg
Sulfide.....	200	U	200	U	200	U
Cyanide, Total.....	4.3	U	4.4	U	3.7	U
Hexavalent Chromium (Cr+6).....						
Total Dissolved Solids.....						
Total Suspended Solids.....						
% Solids.....	79.0	%	77.5	%	91.4	%

Sample Information

RFW Batch ID:	BH87-881-013	BH87-881-014	BH87-881-023
Customer ID:	SP088706CT	SP0887098R	SP098706CT
Matrix:	Soil	Soil	Soil

Inorganics

CO ₃ = as CaCO ₃						
HCO ₃ - as CaCO ₃						
Chloride.....						
Sulfate.....						
pH.....	8.32	phunit	7.75	phunit	6.72	phunit
Fluoride.....						
Nitrate-Nitrite-Nitrogen.....	396	mg/kg	638	mg/kg	87	mg/kg
Sulfide.....	200	U	200	U	200	U
Cyanide, Total.....	3.7	U	3.8	U	4.1	mg/kg
Hexavalent Chromium (Cr+6).....						
Total Dissolved Solids.....						
Total Suspended Solids.....						
% Solids.....	91.3	%	88.3	%	82.1	%

SOLAR POND BOREHOLE SAMPLES
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RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

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Sample Information

RFW Batch ID:	BH87-881-024	BH87-881-071	BH87-881-087
Customer ID:	SP098708BR	SP108700DH	SP1087017D
Matrix:	Soil	Soil	Soil

Inorganics

CO ₃ = as CaCO ₃						
HCO ₃ - as CaCO ₃						
Chloride.....						
Sulfate.....						
pH.....	6.52	phunit	8.09	phunit	7.87	phunit
Fluoride.....						
Nitrate-Nitrite-Nitrogen.....	242	mg/kg	4.0	mg/kg	23	mg/kg
Sulfide.....	200 U	mg/kg	200 U	mg/kg	200 U	mg/kg
Cyanide, Total.....	6.1	mg/kg	3.9 U	mg/kg	3.9 U	mg/kg
Hexavalent Chromium (Cr+6).....						
Total Dissolved Solids.....						
Total Suspended Solids.....						
% Solids.....	81.9	%	86.6	%	86.4	%

Sample Information

RFW Batch ID:	BH87-881-072	BH87-881-073	BH87-881-074
Customer ID:	SP108702DH	SP108704BR	SP108705DH
Matrix:	Soil	Soil	Soil

Inorganics

CO ₃ = as CaCO ₃						
HCO ₃ - as CaCO ₃						
Chloride.....						
Sulfate.....						
pH.....	8.67	phunit	8.47	phunit	8.56	phunit
Fluoride.....						
Nitrate-Nitrite-Nitrogen.....	15	mg/kg	10	mg/kg	11	mg/kg
Sulfide.....	200 U	mg/kg	200 U	mg/kg	200 U	mg/kg
Cyanide, Total.....	4.3 U	mg/kg	4.2 U	mg/kg	4.2 U	mg/kg
Hexavalent Chromium (Cr+6).....						
Total Dissolved Solids.....						
Total Suspended Solids.....						
% Solids.....	79.4	%	80.1	%	80.6	%

SOLAR POND BOREHOLE SAMPLES
INORGANIC
DATA SUMMARY REPORT

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

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Sample Information

RFW Batch ID:	BH87-881-075	BH87-881-077	BH87-881-078
Customer ID:	SP108707DH	SP108711DH	SP108713DH
Matrix:	Soil	Soil	Soil

Inorganics

CO ₃ = as CaCO ₃						
HCO ₃ - as CaCO ₃						
Chloride.....						
Sulfate.....						
pH.....	8.35	phunit	8.20	phunit	7.92	phunit
Fluoride.....						
Nitrate-Nitrite-Nitrogen.....	10	mg/kg	12	mg/kg	14	mg/kg
Sulfide.....	200	U	200	U	200	U
Cyanide, Total.....	4.0	U	4.0	U	3.8	U
Hexavalent Chromium (Cr+6).....						
Total Dissolved Solids.....						
Total Suspended Solids.....						
% Solids.....	83.9	%	85.0	%	88.5	%

Sample Information

RFW Batch ID:	BH87-881-079	BH87-881-086	BH87-881-088
Customer ID:	SP108715DH	SP108717DH	SP108719DH
Matrix:	Soil	Soil	Soil

Inorganics

CO ₃ = as CaCO ₃						
HCO ₃ - as CaCO ₃						
Chloride.....						
Sulfate.....						
pH.....	8.60	phunit	8.08	phunit	8.27	phunit
Fluoride.....						
Nitrate-Nitrite-Nitrogen.....	26	mg/kg	16	mg/kg	12	mg/kg
Sulfide.....	200	U	200	U	200	U
Cyanide, Total.....	4.2	U	3.9	U	4.1	U
Hexavalent Chromium (Cr+6).....						
Total Dissolved Solids.....						
Total Suspended Solids.....						
% Solids.....	80.5	%	86.4	%	82.1	%

SOLAR POND BOREHOLE SAMPLES
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RFW Batch Number: Client: ROCKWELL (ROCKY FLATS) Page: 12

Sample Information

RFW Batch ID:	BH87-881-089	BH87-881-095	BH87-881-096
Customer ID:	SP108721WT	SP108723DH	SP108724DH
Matrix:	Soil	Soil	Soil

Inorganics

CO ₃ = as CaCO ₃						
HCO ₃ - as CaCO ₃						
Chloride.....						
Sulfate.....						
pH.....	8.16	phunit	8.58	phunit	8.44	phunit
Fluoride.....						
Nitrate-Nitrite-Nitrogen.....	11	mg/kg	10	mg/kg	13	mg/kg
Sulfide.....	200 U	mg/kg	200 U	mg/kg	200 U	mg/kg
Cyanide, Total.....	4.6 U	mg/kg	3.9 U	mg/kg	3.9 U	mg/kg
Hexavalent Chromium (Cr+6).....						
Total Dissolved Solids.....						
Total Suspended Solids.....						
% Solids.....	73.7	%	87.2	%	85.7	%

Sample Information

RFW Batch ID:	BH87-881-045	BH87-881-034	BH87-881-046
Customer ID:	SP11870008	SP1187080H	SP1187110H
Matrix:	Soil	Soil	Soil

Inorganics

CO ₃ = as CaCO ₃						
HCO ₃ - as CaCO ₃						
Chloride.....						
Sulfate.....						
pH.....	6.20	phunit	7.79	phunit	6.61	phunit
Fluoride.....						
Nitrate-Nitrite-Nitrogen.....	9.0	mg/kg	2.0 U	mg/kg	2.0 U	mg/kg
Sulfide.....	200 U	mg/kg	200 U	mg/kg	200 U	mg/kg
Cyanide, Total.....	3.9 U	mg/kg	4.1 U	mg/kg	4.2 U	mg/kg
Hexavalent Chromium (Cr+6).....						
Total Dissolved Solids.....						
Total Suspended Solids.....						
% Solids.....	86.0	%	82.6	%	80.7	%

SOLAR POND BOREHOLE SAMPLES
INORGANIC
DATA SUMMARY REPORT

RFW Batch Number: Client: ROCKWELL (ROCKY FLATS) Page: 13

Sample Information

RFW Batch ID:	BH87-881-047	BH87-881-048	BH87-881-049
Customer ID:	SP118714DH	SP118716DH	SP118719DH
Matrix:	Soil	Soil	Soil

Inorganics

CO ₃ ⁼ as CaCO ₃						
HCO ₃ ⁻ as CaCO ₃						
Chloride.....						
Sulfate.....						
pH.....	6.97	phunit	7.47	phunit	7.31	phunit
Fluoride.....						
Nitrate-Nitrite-Nitrogen.....	2.0	U mg/kg	3.0	mg/kg	10	mg/kg
Sulfide.....	200	U mg/kg	200	U mg/kg	200	U mg/kg
Cyanide, Total.....	19	I mg/kg	4.2	U mg/kg	3.9	U mg/kg
Hexavalent Chromium (Cr+6).....						
Total Dissolved Solids.....						
Total Suspended Solids.....						
% Solids.....	80.8	%	79.7	%	86.6	%

Sample Information

RFW Batch ID:	BH87-881-050	BH87-881-051	BH87-881-052
Customer ID:	SP118721DH	SP118724DH	SP118726DH
Matrix:	Soil	Soil	Soil

Inorganics

CO ₃ ⁼ as CaCO ₃						
HCO ₃ ⁻ as CaCO ₃						
Chloride.....						
Sulfate.....						
pH.....	7.66	phunit	7.82	phunit	7.76	phunit
Fluoride.....						
Nitrate-Nitrite-Nitrogen.....	11	mg/kg	10	mg/kg	12	mg/kg
Sulfide.....	200	U mg/kg	200	U mg/kg	200	U mg/kg
Cyanide, Total.....	3.8	U mg/kg	3.9	U mg/kg	4.0	U mg/kg
Hexavalent Chromium (Cr+6).....						
Total Dissolved Solids.....						
Total Suspended Solids.....						
% Solids.....	88.2	%	86.9	%	84.7	%

SOLAR POND BOREHOLE SAMPLES
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RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

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Sample Information

RFW Batch ID:	BH87-881-061	BH87-881-060	BH87-881-062
Customer ID:	SP1187290H	SP1287009	SP128700UC
Matrix:	Soil	Soil	Soil

Inorganics

CO ₃ = as CaCO ₃						
HCO ₃ - as CaCO ₃						
Chloride.....						
Sulfate.....						
pH.....	7.60	phunit	8.17	phunit	7.83	phunit
Fluoride.....						
Nitrate-Nitrite-Nitrogen.....	2.0	U mg/kg	3.0	mg/kg	2.0	U mg/kg
Sulfide.....	200	U mg/kg	200	U mg/kg	200	U mg/kg
Cyanide, Total.....	4.1	U mg/kg	4.0	U mg/kg	4.0	U mg/kg
Hexavalent Chromium (Cr+6).....						
Total Dissolved Solids.....						
Total Suspended Solids.....						
% Solids.....	82.8	%	84.6	%	85.9	%

Sample Information

RFW Batch ID:	BH87-881-081	BH87-881-069	BH87-881-070
Customer ID:	SP12870916	SP1287160H	SP128719DH
Matrix:	Soil	Soil	Soil

Inorganics

CO ₃ = as CaCO ₃						
HCO ₃ - as CaCO ₃						
Chloride.....						
Sulfate.....						
pH.....	8.37	phunit	8.16	phunit	8.26	phunit
Fluoride.....						
Nitrate-Nitrite-Nitrogen.....	3.0	mg/kg	3.0	mg/kg	2.0	U mg/kg
Sulfide.....	200	U mg/kg	200	U mg/kg	200	U mg/kg
Cyanide, Total.....	4.0	U mg/kg	4.1	U mg/kg	4.2	U mg/kg
Hexavalent Chromium (Cr+6).....						
Total Dissolved Solids.....						
Total Suspended Solids.....						
% Solids.....	84.2	%	82.7	%	80.5	%

SOLAR POND BOREHOLE SAMPLES
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DATA SUMMARY REPORT

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RFW Batch Number: Client: ROCKWELL (ROCKY FLATS) Page: 15

Sample Information

RFW Batch ID:	BH87-881-082	BH87-881-083	BH87-881-084
Customer ID:	SP128721DH	SP128724DH	SP128726DH
Matrix:	Soil	Soil	Soil

Inorganics

CO ₃ ²⁻ as CaCO ₃						
HCO ₃ ⁻ as CaCO ₃						
Chloride.....						
Sulfate.....						
pH.....	8.32	phunit	8.28	phunit	8.36	phunit
Fluoride.....						
Nitrate-Nitrite-Nitrogen.....	4.0	mg/kg	8.0	mg/kg	35	mg/kg
Sulfide.....	200	U mg/kg	200	U mg/kg	200	U mg/kg
Cyanide, Total.....	4.1	U mg/kg	3.8	U mg/kg	4.1	U mg/kg
Hexavalent Chromium (Cr+6).....						
Total Dissolved Solids.....						
Total Suspended Solids.....						
% Solids.....	82.5	%	88.2	%	83.4	%

Sample Information

RFW Batch ID:	BH87-881-085	BH87-881-090	BH87-881-091
Customer ID:	SP128729DH	SP128731DH	SP128734DH
Matrix:	Soil	Soil	Soil

Inorganics

CO ₃ ²⁻ as CaCO ₃						
HCO ₃ ⁻ as CaCO ₃						
Chloride.....						
Sulfate.....						
pH.....	7.67	phunit	7.75	phunit	7.89	phunit
Fluoride.....						
Nitrate-Nitrite-Nitrogen.....	11	mg/kg	3.0	mg/kg	21	mg/kg
Sulfide.....	200	U mg/kg	200	U mg/kg	200	U mg/kg
Cyanide, Total.....	4.0	U mg/kg	4.1	U mg/kg	4.0	U mg/kg
Hexavalent Chromium (Cr+6).....						
Total Dissolved Solids.....						
Total Suspended Solids.....						
% Solids.....	84.9	%	83.2	%	83.5	%

SOLAR POND BOREHOLE SAMPLES
INORGANIC
DATA SUMMARY REPORT

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RFW Batch Number: Client: ROCKWELL (ROCKY FLATS) Page: 16

Sample Information

RFW Batch ID:	BH87-881-092	BH87-881-093	BH87-881-063
Customer ID:	SP128739DH	SP128741DH	SP138701CT
Matrix:	Soil	Soil	Soil

Inorganics

CO ₃ = as CaCO ₃						
HCO ₃ - as CaCO ₃						
Chloride.....						
Sulfate.....						
pH.....	7.73	phunit	7.87	phunit	8.07	phunit
Fluoride.....						
Nitrate-Nitrite-Nitrogen.....	2.0	U mg/kg	3.0	mg/kg	2.0	U mg/kg
Sulfide.....	200	U mg/kg	200	U mg/kg	200	U mg/kg
Cyanide, Total.....	3.8	U mg/kg	3.9	U mg/kg	4.0	U mg/kg
Hexavalent Chromium (Cr+6).....						
Total Dissolved Solids.....						
Total Suspended Solids.....						
% Solids.....	87.8	%	86.7	%	85.4	%

Sample Information

RFW Batch ID:	BH87-881-064	BH87-881-065	BH87-881-067
Customer ID:	SP138703BR	SP138706DH	SP138709DH
Matrix:	Soil	Soil	Soil

Inorganics

CO ₃ = as CaCO ₃						
HCO ₃ - as CaCO ₃						
Chloride.....						
Sulfate.....						
pH.....	7.96	phunit	8.01	phunit	7.84	phunit
Fluoride.....						
Nitrate-Nitrite-Nitrogen.....	4.0	mg/kg	2.0	U mg/kg	21	mg/kg
Sulfide.....	200	U mg/kg	200	U mg/kg	200	U mg/kg
Cyanide, Total.....	3.9	U mg/kg	3.9	U mg/kg	4.0	U mg/kg
Hexavalent Chromium (Cr+6).....						
Total Dissolved Solids.....						
Total Suspended Solids.....						
% Solids.....	87.3	%	87.8	%	85.4	%

SOLAR POND BOREHOLE SAMPLES
INORGANIC
DATA SUMMARY REPORT

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

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Sample Information

RFW Batch ID:	BH87-881-068	BH87-881-066	BH87-881-094
Customer ID:	SP138711DH	SP138760UP	SP148702CT
Matrix:	Soil	Soil	Soil

Inorganics

CO ₃ = as CaCO ₃						
HCO ₃ - as CaCO ₃						
Chloride.....						
Sulfate.....						
pH.....	8.34	phunit	7.92	phunit	7.83	phunit
Fluoride.....						
Nitrate-Nitrite-Nitrogen.....	2.0	U mg/kg	2.0	U mg/kg	251	mg/kg
Sulfide.....	200	U mg/kg	200	U mg/kg	200	U mg/kg
Cyanide, Total.....	3.9	U mg/kg	3.8	U mg/kg	4.0	U mg/kg
Hexavalent Chromium (Cr+6).....						
Total Dissolved Solids.....						
Total Suspended Solids.....						
% Solids.....	87.1	%	88.1	%	83.9	%

Sample Information

RFW Batch ID:	BH87-881-102	BH87-881-105	BH87-881-103
Customer ID:	SP148704BR	SP158700BD	SP158702DH
Matrix:	Soil	Soil	Soil

Inorganics

CO ₃ = as CaCO ₃						
HCO ₃ - as CaCO ₃						
Chloride.....						
Sulfate.....						
pH.....	7.77	phunit	8.09	phunit	7.93	phunit
Fluoride.....						
Nitrate-Nitrite-Nitrogen.....	220	mg/kg	3.0	mg/kg	20	mg/kg
Sulfide.....	200	U mg/kg	200	U mg/kg	200	U mg/kg
Cyanide, Total.....	4.1	U mg/kg	4.2	U mg/kg	3.6	U mg/kg
Hexavalent Chromium (Cr+6).....						
Total Dissolved Solids.....						
Total Suspended Solids.....						
% Solids.....	83.3	%	80.5	%	93.8	%

SOLAR POND BOREHOLE SAMPLES
INORGANIC
DATA SUMMARY REPORT

RFW Batch Number: Client: ROCKWELL (ROCKY FLATS) Page: 18

Sample Information

RFW Batch ID:	BH87-881-104	BH87-881-106	BH87-881-112
Customer ID:	SP158708DH	SP158710DH	SP158712WT
Matrix:	Soil	Soil	Soil

Inorganics

CO ₃ = as CaCO ₃						
HCO ₃ - as CaCO ₃						
Chloride.....						
Sulfate.....						
pH.....	8.24	phunit	8.09	phunit	8.04	phunit
Fluoride.....						
Nitrate-Nitrite-Nitrogen.....	2.0	mg/kg	2.0	U mg/kg	2.0	U mg/kg
Sulfide.....	200	U mg/kg	200	U mg/kg	200	U mg/kg
Cyanide, Total.....	4.1	U mg/kg	4.0	U mg/kg	4.2	U mg/kg
Hexavalent Chromium (Cr+6).....						
Total Dissolved Solids.....						
Total Suspended Solids.....						
% Solids.....	82.2	%	85.1	%	80.2	%

Sample Information

RFW Batch ID:	BH87-881-113	BH87-881-114	BH87-881-120
Customer ID:	SP158714CT	SP158717BR	SP168702FS
Matrix:	Soil	Soil	Soil

Inorganics

CO ₃ = as CaCO ₃						
HCO ₃ - as CaCO ₃						
Chloride.....						
Sulfate.....						
pH.....	8.33	phunit	8.45	phunit	9.3	phunit
Fluoride.....						
Nitrate-Nitrite-Nitrogen.....	4.0	mg/kg	2.0	U mg/kg	11	mg/kg
Sulfide.....	200	U mg/kg	200	U mg/kg	200	U mg/kg
Cyanide, Total.....	4.0	U mg/kg	4.1	U mg/kg	0.16	U mg/kg
Hexavalent Chromium (Cr+6).....						
Total Dissolved Solids.....						
Total Suspended Solids.....						
% Solids.....	84.5	%	83.2	%	77.6	%

SOLAR POND BOREHOLE SAMPLES
INORGANIC
DATA SUMMARY REPORT

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

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Sample Information

RFW Batch ID:	BH87-881-121	BH87-881-122	BH87-881-123
Customer ID:	SP168708UC	SP168710CT	SP168711BR
Matrix:	Soil	Soil	Soil

Inorganics

CO ₃ = as CaCO ₃						
HCO ₃ - as CaCO ₃						
Chloride.....						
Sulfate.....						
pH.....	8.3	phunit	8.4	phunit	8.5	phunit
Fluoride.....						
Nitrate-Nitrite-Nitrogen.....	12	mg/kg	3.0	mg/kg	2.0	U mg/kg
Sulfide.....	200	U mg/kg	200	U mg/kg	200	U mg/kg
Cyanide, Total.....	0.14	U mg/kg	0.14	U mg/kg	0.14	U mg/kg
Hexavalent Chromium (Cr+6).....						
Total Dissolved Solids.....						
Total Suspended Solids.....						
% Solids.....	85.1	%	85.7	%	86.4	%

WESTON ANALYTICS: Inorganics

May 26, 1988

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List: Customer ID's: All

RFW Batch ID	Customer ID	Laboratory ID
8608-052-025	C188608860	
8608-052-029	C188608861	
8608-056-035	C188608862	
8609-022-020	C208609860	
8609-022-023	C208609861	
8609-022-026	C208609862	
8609-022-029	C228609860	
8609-022-032	C228609861	
8609-022-035	C228609862	
8609-022-008	C258608860	
8609-022-002	C258608861	
8609-022-005	C258608862	
8609-022-011	C278609860	
8609-022-014	C278609861	
8609-022-017	C278609862	

YSOLAR POND CORE SAMPLES
INORGANIC
DATA SUMMARY REPORT

===== RFW Batch Number: Client: ROCKWELL (ROCKY FLATS) Page: 1 =====

Sample Information

RFW Batch ID:	8608-052-025	8608-052-029	8608-056-035
Customer ID:	C188608860	C188608861	C188608862
Matrix:	Soil	Soil	Soil

Inorganics

CO ₃ = as CaCO ₃			NR		
HCO ₃ - as CaCO ₃			NR		
Chloride.....	20	mg/kg	12	mg/kg	
Sulfate.....	400	mg/kg	250	mg/kg	
pH.....					
Fluoride.....					
Nitrate-Nitrite-Nitrogen.....	22.9	mg/kg	49.8	mg/kg	42.5 mg/kg
Sulfide.....					
Cyanide, Total.....	2.5 U	mg/kg	2.5 U	mg/kg	2.5 U mg/kg
Hexavalent Chromium (Cr+6).....	NA		NA		NA
Total Dissolved Solids.....			NA		
Total Suspended Solids.....			NA		
% Solids.....	86	%	83	%	87 %

Sample Information

RFW Batch ID:	8609-022-020	8609-022-023	8609-022-026
Customer ID:	C208609860	C208609861	C208609862
Matrix:	Soil	Soil	Soil

Inorganics

CO ₃ = as CaCO ₃					
HCO ₃ - as CaCO ₃					
Chloride.....					
Sulfate.....					
pH.....					
Fluoride.....					
Nitrate-Nitrite-Nitrogen.....	20.0 U	mg/kg	20.0 U	mg/kg	20.0 U mg/kg
Sulfide.....					
Cyanide, Total.....	0.5 U	mg/kg	0.5 U	mg/kg	0.5 U mg/kg
Hexavalent Chromium (Cr+6).....			NA		NA
Total Dissolved Solids.....					
Total Suspended Solids.....					
% Solids.....	90	%	85	%	83 %

YSOLAR POND CORE SAMPLES
INORGANIC
DATA SUMMARY REPORT

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RFW Batch Number: Client: ROCKWELL (ROCKY FLATS)

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Sample Information

RFW Batch ID:	8609-022-029	8609-022-032	8609-022-035
Customer ID:	C228609860	C228609861	C228609862
Matrix:	Soil	Soil	Soil

Inorganics

CO ₃ ⁼ as CaCO ₃						
HCO ₃ ⁻ as CaCO ₃						
Chloride.....						
Sulfate.....						
pH.....						
Fluoride.....						
Nitrate-Nitrite-Nitrogen.....	20.0	U mg/kg	20.0	U mg/kg	20.0	U mg/kg
Sulfide.....	0.5	U mg/kg	0.5	U mg/kg	0.5	U mg/kg
Cyanide, Total.....	NA		NA		NA	
Hexavalent Chromium (Cr+6).....						
Total Dissolved Solids.....						
Total Suspended Solids.....						
% Solids.....	85	%	84	%	81	%

Sample Information

RFW Batch ID:	8609-022-008	8609-022-002	8609-022-005
Customer ID:	C258608860	C258608861	C258608862
Matrix:	Soil	Soil	Soil

Inorganics

CO ₃ ⁼ as CaCO ₃						
HCO ₃ ⁻ as CaCO ₃						
Chloride.....						
Sulfate.....						
pH.....						
Fluoride.....						
Nitrate-Nitrite-Nitrogen.....		20.0 U mg/kg	23.0 mg/kg			
Sulfide.....	0.5 U mg/kg	0.5 U mg/kg	0.5 U mg/kg			
Cyanide, Total.....	NA		NA			
Hexavalent Chromium (Cr+6).....						
Total Dissolved Solids.....						
Total Suspended Solids.....						
% Solids.....	89	%	83	%	85	%

YSOLAR POND CORE SAMPLES
INORGANIC
DATA SUMMARY REPORT

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RFW Batch Number: Client: ROCKWELL (ROCKY FLATS)

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Sample Information

RFW Batch ID:	8609-022-011	8609-022-014	8609-022-017
Customer ID:	C278609860	C278609861	C278609862
Matrix:	Soil	Soil	Soil

=====

Inorganics

CO ₃ = as CaCO ₃						
HCO ₃ - as CaCO ₃						
Chloride.....						
Sulfate.....						
pH.....						
Fluoride.....						
Nitrate-Nitrite-Nitrogen.....	291	mg/kg	94	mg/kg	113	mg/kg
Sulfide.....						
Cyanide, Total.....	0.5	U mg/kg	0.5	U mg/kg	0.5	U mg/kg
Hexavalent Chromium (Cr+6).....	NA		NA		NA	
Total Dissolved Solids.....						
Total Suspended Solids.....						
% Solids.....	93	%	79	%	84	%

METALS

SOLAR POND CLOSURE CHARACTERIZATION REPORT
ROCKY FLATS PLANT, GOLDEN, COLORADO

1 JULY 1988

APPENDICES

List: Customer ID's: All

RFW Batch ID	Customer ID	Laboratory ID
BH87-881-010	SP018700FS	
BH87-881-011	SP018704DH	
BH87-881-012	SP018705DH	
BH87-881-001	SP018711DH	
BH87-881-007	SP018713DH	
BH87-881-015	SP018716BR	
BH87-881-016	SP018721DH	
BH87-881-017	SP018723DH	
BH87-881-057	SP02870008	
BH87-881-003	SP028708UC	
BH87-881-004	SP028711CT	
BH87-881-005	SP028713BR	
BH87-881-002	SP038711DH	
BH87-881-008	SP038713CT	
BH87-881-009	SP038716BR	
BH87-881-020	SP0487004D	
BH87-881-018	SP048702DH	
BH87-881-019	SP048704DH	
BH87-881-021	SP048707DH	
BH87-881-026	SP048712DH	
BH87-881-027	SP048715FS	
BH87-881-028	SP048717DH	
BH87-881-029	SP048720DH	
BH87-881-030	SP048722DH	
BH87-881-031	SP048725DH	
BH87-881-032	SP048727DH	
BH87-881-033	SP048730DH	
BH87-881-044	SP048732DH	
BH87-881-054	SP058702DH	
BH87-881-055	SP058704DH	
BH87-881-056	SP058707DH	
BH87-881-058	SP058710DH	
BH87-881-059	SP058712DH	
BH87-881-060	SP058716DH	
BH87-881-035	SP068702FS	
BH87-881-036	SP068708DH	
BH87-881-037	SP068711DH	
BH87-881-038	SP068713DH	
BH87-881-039	SP068716DH	
BH87-881-040	SP068718DH	
BH87-881-041	SP068721DH	
BH87-881-042	SP068724DH	
BH87-881-043	SP068726DH	
BH87-881-097	SP078700DH	
BH87-881-098	SP078702DH	
BH87-881-099	SP078708FS	
BH87-881-100	SP078711DH	
BH87-881-101	SP078713DH	
BH87-881-107	SP078716DH	
BH87-881-108	SP078718WT	
BH87-881-109	SP078721CT	

List: Customer ID's: All

RFW Batch ID	Customer ID	Laboratory ID
BH87-881-110	SP078723BR	
BH87-881-111	SP078726DH	
BH87-881-006	SP088703UC	
BH87-881-013	SP088706CT	
BH87-881-014	SP088709BR	
BH87-881-023	SP098706CT	
BH87-881-024	SP098708BR	
BH87-881-071	SP108700DH	
BH87-881-087	SP1087017D	
BH87-881-072	SP108702DH	
BH87-881-073	SP108704BR	
BH87-881-074	SP108705DH	
BH87-881-075	SP108707DH	
BH87-881-077	SP108711DH	
BH87-881-078	SP108713DH	
BH87-881-079	SP108715DH	
BH87-881-086	SP108717DH	
BH87-881-088	SP108719DH	
BH87-881-089	SP108721WT	
BH87-881-095	SP108723DH	
BH87-881-096	SP108724DH	
BH87-881-045	SP11870008	
BH87-881-034	SP118708DH	
BH87-881-046	SP118711DH	
BH87-881-047	SP118714DH	
BH87-881-048	SP118716DH	
BH87-881-049	SP118719DH	
BH87-881-050	SP118721DH	
BH87-881-051	SP118724DH	
BH87-881-052	SP118726DH	
BH87-881-061	SP118729DH	
BH87-881-080	SP12870009	
BH87-881-081	SP12870916	
BH87-881-069	SP128716DH	
BH87-881-070	SP128719DH	
BH87-881-082	SP128721DH	
BH87-881-083	SP128724DH	
BH87-881-084	SP128726DH	
BH87-881-085	SP128729DH	
BH87-881-090	SP128731DH	
BH87-881-091	SP128734DH	
BH87-881-092	SP128739DH	
BH87-881-093	SP128741DH	
BH87-881-062	SP138700UC	
BH87-881-063	SP138701CT	
BH87-881-064	SP138703BR	
BH87-881-065	SP138706DH	
BH87-881-067	SP138709DH	
BH87-881-068	SP138711DH	
BH87-881-066	SP13876DUP	
BH87-881-094	SP148702CT	

List: Customer ID's: All

RFW Batch ID	Customer ID	Laboratory ID
BH87-881-102	SP148704BR	
BH87-881-105	SP1587008D	
BH87-881-106	SP1587010DH	
BH87-881-103	SP158702DH	
BH87-881-104	SP158708DH	
BH87-881-112	SP158712WT	
BH87-881-113	SP158714CT	
BH87-881-114	SP158717BR	
BH87-881-120	SP168702FS	
BH87-881-121	SP168708UC	
BH87-881-122	SP168710CT	
BH87-881-123	SP168711BR	

SOLAR POND BOREHOLE SAMPLES
METALS
INORGANICS DATA SUMMARY REPORT

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

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Sample Information

RFW Batch ID:	BH87-881-010	BH87-881-011	BH87-881-012	BH87-881-001
Customer ID:	SP018700FS	SP018704DH	SP018705DH	SP018711DH
Matrix:	Soil	Soil	Soil	Soil
Units:	MG/KG	MG/KG	MG/KG	MG/KG

Metals

Silver (Ag), total.....	5.2183 U	5.1917 U	5.1106 U	4.3613 U
Aluminum (Al), total.....	13441.9961	14499.5586	30899.3340	9166.1162
Arsenic (As), total.....	2.3	3.4	6.5	7.4
Barium (Ba), total.....	107.6959	89.9049	113.9977	53.4015
Beryllium (Be), total.....	2.6092 U	2.5959 U	2.6139	2.1807 U
Calcium (Ca), total.....	8663.5840	14408.6016	5114.8237	1436.6106
Cadmium (Cd), total.....	3.7415	2.3604	1.9635	1.7961
Cobalt (Co), total.....	15.7480	15.0287 U	14.7939	12.6249 U
Chromium (Cr), total.....	20.6220	16.2380	27.8578	17.8371
Cesium (Cs), total.....				
Copper (Cu), total.....	13.5360	10.8796	8.6855	12.4920
Iron (Fe), total.....	15797.1162	14220.4219	23225.9844	16421.0625
Mercury (Hg), total.....	0.2 U	0.2 U	0.2 U	0.2 U
Potassium (K), total.....	2500	2300	3600	1000 U
Lithium (Li), total.....	100 U	100 U	100 U	100 U
Magnesium (Mg), total.....	2731.2029	2800.9717	2799.4729	1628.1650
Manganese (Mn), total.....	178.5722	197.1495	133.5211	293.9701
Molybdenum(Mo), total.....	15.1056 U	15.0287 U	14.7939 U	12.6249 U
Sodium (Na), total.....	1441.9014 U	1434.5581 U	1412.1476 U	1249.4033
Nickel (Ni), total.....	25.4049 U	25.2755 U	30.0541	24.1012
Lead (Pb), total.....	27	21	21	8.2
Antimony (Sb), total.....	2.6804	4.3738	4.2108	2.6602
Selenium (Se), total.....	1.0 U	1.0 U	1.0 U	1.0 U
Strontium (Sr), total.....	32.2200	53.3212	32.6462	12.2673
Thallium (Tl), total.....	5.6303 U	5.6016 U	5.5141 U	4.7056 U
Vanadium (V), total.....	42.4262	52.5696	71.7669	33.8276
Zinc (Zn), total.....	61.4135	53.9971	47.4883	18.6090

SOLAR POND BOREHOLE SAMPLES
METALS
INORGANICS DATA SUMMARY REPORT

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

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Sample Information

RFW Batch ID:	BH87-881-007	BH87-881-015	BH87-881-016	BH87-881-017
Customer ID:	SP018713DH	SP0187168R	SP018721DH	SP018723DH
Matrix:	Soil	Soil	Soil	Soil
Units:	MG/KG	MG/KG	MG/KG	MG/KG

Metals

Silver (Ag), total.....	4.8474 U	5.5844 U	5.5458 U	5.2244 U
Aluminum (Al), total.....	8300.6621	5259.7290	7970.6274	6848.4517
Arsenic (As), total.....	3.5	6.8	6.8	2.1
Barium (Ba), total.....	94.8918	32.9046	76.5327	115.0266
Beryllium (Be), total.....	2.4237 U	2.7922 U	2.7729 U	2.6122 U
Calcium (Ca), total.....	2325.2192	1877.0740	3080.0342	3331.5127
Cadmium (Cd), total.....	2.2852	2.6807	2.0249	1.9110
Cobalt (Co), total.....	14.0319 U	16.1653 U	16.0537 U	15.1234 U
Chromium (Cr), total.....	6.3781 U	7.3479	11.0976	31.3304
Cesium (Cs), total.....				
Copper (Cu), total.....	6.9983	5.7342	12.1026	30.2858
Iron (Fe), total.....	9999.4541	8543.2432	14744.7764	13805.7813
Mercury (Hg), total.....	0.2 U	0.2 U	0.2 U	0.2 U
Potassium (K), total.....	1000 U	1000 U	1000 U	1000 U
Lithium (Li), total.....	100 U	100 U	100 U	100 U
Magnesium (Mg), total.....	1584.5968	1048.7197	1499.2919	1489.7839
Manganese (Mn), total.....	407.8099	36.4304	156.7015	313.5940
Molybdenum(Mo), total.....	14.0319 U	16.1653 U	16.0537 U	15.1234 U
Sodium (Na), total.....	1339.4077	1543.0540 U	1532.3992 U	1443.5957 U
Nickel (Ni), total.....	35.1599	27.1871 U	26.9994 U	39.4955
Lead (Pb), total.....	18	18	18	15
Antimony (Sb), total.....	2.4963	2.6676	2.4081 U	2.2685 U
Selenium (Se), total.....	1.0 U	1.0 U	1.0 U	1.0 U
Strontium (Sr), total.....	21.0514	21.7427	31.2728	34.2671
Thallium (Tl), total.....	5.2301 U	6.0253 U	5.9837 U	5.6369 U
Vanadium (V), total.....	36.0218	40.2989	42.4520	30.9080
Zinc (Zn), total.....	23.6002	29.0552	54.7891	51.1263

SOLAR POND BOREHOLE SAMPLES
METALS
INORGANICS DATA SUMMARY REPORT

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RFW Batch Number: Client: ROCKWELL (ROCKY FLATS) Page: 3

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Sample Information

RFW Batch ID:	BH87-881-057	BH87-881-003	BH87-881-004	BH87-881-005
Customer ID:	SP02870008	SP028708UC	SP028711CT	SP028713BR
Matrix:	Soil	Soil	Soil	Soil
Units:	MG/KG	MG/KG	MG/KG	MG/KG

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Metals

Silver (Ag), total.....	5.0167 U	5.2570 U	5.0576 U	4.7832 U
Aluminum (Al), total.....	7026.1836	7778.0073	5957.9600	5561.4131
Arsenic (As), total.....	2.9	2.6	4.9	2.0
Barium (Ba), total.....	76.3285	122.4280	53.9807	30.8691
Beryllium (Be), total.....	2.5083 U	2.6285 U	2.5288 U	2.3916 U
Calcium (Ca), total.....	18390.1172	126076.031	50604.6523	26297.0117
Cadmium (Cd), total.....	2.3847	5.0679	3.5114	2.6465
Cobalt (Co), total.....	14.5219 U	15.2176 U	14.6405 U	13.8462 U
Chromium (Cr), total.....	9.7629	7.5129	11.3111	7.9577
Cesium (Cs), total.....				
Copper (Cu), total.....	9.3165	4.9917	4.1925 U	3.9650 U
Iron (Fe), total.....	15042.7539	5793.0479	5087.1621	4130.3452
Mercury (Hg), total.....	0.2 U	0.2 U	0.2 U	0.2 U
Potassium (K), total.....	1600	1000 U	1000 U	1000 U
Lithium (Li), total.....	100 U	100 U	100 U	100 U
Magnesium (Mg), total.....	2071.4199	3514.0674	1910.2239	1228.3871
Manganese (Mn), total.....	218.2263	53.5351	17.9664	23.2698
Molybdenum(Mo), total.....	14.5219 U	15.2176 U	14.6405 U	13.8462 U
Sodium (Na), total.....	1386.1814 U	1452.5939 U	1397.5045 U	1321.6785 U
Nickel (Ni), total.....	24.4232 U	25.5933 U	24.6227 U	23.2867 U
Lead (Pb), total.....	9.8	3.0	11	1.3
Antimony (Sb), total.....	2.1783 U	8.0315	5.8252	2.5204
Selenium (Se), total.....	1.0 U	1.0 U	1.0 U	1.0 U
Strontium (Sr), total.....	36.7010	214.3830	92.2461	33.4658
Thallium (Tl), total.....	5.4127 U	5.6720 U	5.4569 U	5.1608 U
Vanadium (V), total.....	17.4130	16.6011 U	15.9715 U	15.1049 U
Zinc (Zn), total.....	34.2756	15.8171	16.2170	15.0644

SOLAR POND BOREHOLE SAMPLES
METALS
INORGANICS DATA SUMMARY REPORT

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

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Sample Information

RFW Batch ID:	BH87-881-002	BH87-881-008	BH87-881-009	BH87-881-020
Customer ID:	SP038711DH	SP038713CT	SP038716BR	SP0487004D
Matrix:	Soil	Soil	Soil	Soil
Units:	MG/KG	MG/KG	MG/KG	MG/KG

Metals

Silver (Ag), total.....	4.3475 U	4.8941 U	4.8132 U	5.7800 U
Aluminum (Al), total.....	9691.4199	7296.0444	10704.5430	20344.5820
Arsenic (As), total.....	2.3	3.9	11	5.6
Barium (Ba), total.....	35.7110	41.7541	53.3540	200.1452
Beryllium (Be), total.....	2.1737 U	2.4470 U	2.4066 U	2.8900 U
Calcium (Ca), total.....	1755.3124	2523.1731	10347.8857	81473.1641
Cadmium (Cd), total.....	1.3934	1.6827	2.2847	119.1365
Cobalt (Co), total.....	12.5847 U	14.1671 U	13.9329 U	16.7316 U
Chromium (Cr), total.....	12.1931	12.9833	9.4955	21.8044
Cesium (Cs), total.....				
Copper (Cu), total.....	6.5065	9.6104	6.2317	9.0218
Iron (Fe), total.....	10606.2217	7481.9868	8654.5996	13051.6309
Mercury (Hg), total.....	0.2 U	0.2 U	0.2 U	0.2 U
Potassium (K), total.....	1000	1200	1000	5200
Lithium (Li), total.....	100 U	100 U	100 U	100 U
Magnesium (Mg), total.....	1653.1522	1640.9746	2346.6438	3608.5159
Manganese (Mn), total.....	144.3217	81.8820	25.3447	224.0333
Molybdenum(Mo), total.....	12.5847 U	14.1671 U	13.9329	16.7316 U
Sodium (Na), total.....	1201.2712 U	1352.3152 U	1451.3228	1597.1088 U
Nickel (Ni), total.....	21.1653 U	23.8265 U	23.4327	58.5558
Lead (Pb), total.....	6.0	19	18	5.9
Antimony (Sb), total.....	2.1517	2.9548	3.3760	12.6159
Selenium (Se), total.....	1.0 U	1.0 U	1.0 U	1.0 U
Strontium (Sr), total.....	13.9076	25.6271	44.2483	124.0441
Thallium (Tl), total.....	4.6907 U	5.2805 U	5.1932 U	6.2363 U
Vanadium (V), total.....	28.6254	27.8720	29.5606	31.1709
Zinc (Zn), total.....	25.3936	33.4917	46.6971	33.2655

SOLAR POND BOREHOLE SAMPLES
METALS
INORGANICS DATA SUMMARY REPORT

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RFW Batch Number: Client: ROCKWELL (ROCKY FLATS) Page: 5

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Sample Information

RFW Batch ID:	BH87-881-018	BH87-881-019	BH87-881-021	BH87-881-026
Customer ID:	SP048702DH	SP048704DH	SP048707DH	SP048712DH
Matrix:	Soil	Soil	Soil	Soil
Units:	MG/KG	MG/KG	MG/KG	MG/KG

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Metals

Silver (Ag), total.....	4.6164 U	4.6495 U	4.9032 U	5.0081 U
Aluminum (Al), total.....	762.9734	18763.8203	9575.5762	7685.3047
Arsenic (As), total.....	9.9	4.3	2.0 U	15
Barium (Ba), total.....	10.3398	174.0399	169.9247	66.3075
Beryllium (Be), total.....	2.3082 U	2.3248 U	2.4516 U	2.4542 U
Calcium (Ca), total.....	455.5681 U	119857.758	161428.266	11990.9922
Cadmium (Cd), total.....	54.1000	70.8517	7.4073	3.5616
Cobalt (Co), total.....	13.3633 U	13.4591 U	14.1935 U	14.4971
Chromium (Cr), total.....	6.0742 U	16.9933	11.6169	6.5896 U
Cesium (Cs), total.....				
Copper (Cu), total.....	3.8268 U	8.9928	6.3805	21.5080
Iron (Fe), total.....	4602.3433	12418.9170	6051.4478	23701.8477
Mercury (Hg), total.....	0.2 U	0.2 U	0.2 U	0.2 U
Potassium (K), total.....	1700	3500	1600	1600
Lithium (Li), total.....	100 U	100 U	100 U	100 U
Magnesium (Mg), total.....	173.9185	3915.6394	3951.2632	2297.5125
Manganese (Mn), total.....	98.6683	219.4141	48.1392	117.9376
Molybdenum(Mo), total.....	13.3633 U	13.4591 U	14.1935 U	14.4971 U
Sodium (Na), total.....	1275.5906 U	1284.7343 U	1354.8387 U	1383.8176 U
Nickel (Ni), total.....	22.4747 U	38.3826	23.8710 U	24.3815 U
Lead (Pb), total.....	13	5.7	2.9	26
Antimony (Sb), total.....	3.3842	6.0618	4.9473	5.2774
Selenium (Se), total.....	1.0 U	1.0 U	1.0 U	1.0 U
Strontium (Sr), total.....	12.1485 U	168.0517	237.8597	73.4246
Thallium (Tl), total.....	4.9809 U	5.0166 U	5.2903	5.2959 U
Vanadium (V), total.....	14.5782 U	32.9863	15.4839 U	49.7002
Zinc (Zn), total.....	12.1485 U	30.6914	19.0224	79.6810

SOLAR POND BOREHOLE SAMPLES
METALS
INORGANICS DATA SUMMARY REPORT

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

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Sample Information

RFW Batch ID:	BH87-881-027	BH87-881-028	BH87-881-029	BH87-881-030
Customer ID:	SP048715FS	SP048717DH	SP048720DH	SP048722DH
Matrix:	Soil	Soil	Soil	Soil
Units:	MG/KG	MG/KG	MG/KG	MG/KG

Metals

Silver (Ag), total.....	4.8505 U	5.0483 U	4.9453 U	4.9877 U
Aluminum (Al), total.....	2618.9338	10907.7588	6791.5171	4093.2983
Arsenic (As), total.....	4.4	18	2.0 U	2.0 U
Barium (Ba), total.....	76.6415	74.1320	26.5734	18.1685
Beryllium (Be), total.....	3.7531	2.4935 U	2.4643 U	2.5895 U
Calcium (Ca), total.....	1021.0970	3577.7776	3096.6387	1748.4672
Cadmium (Cd), total.....	2.4933	2.9979	2.6828	2.7825
Cobalt (Co), total.....	14.0408 U	14.6135 U	14.3154 U	14.4382 U
Chromium (Cr), total.....	6.3822 U	9.5492	6.5070 U	6.5628 U
Cesium (Cs), total.....				
Copper (Cu), total.....	5.2929	17.2677	8.0958	4.3207
Iron (Fe), total.....	3157.6379	12029.0313	5504.9419	2804.1143
Mercury (Hg), total.....	0.2 U	0.2 U	0.2 U	0.2 U
Potassium (K), total.....	1400	1100	1000 U	1000 U
Lithium (Li), total.....	100 U	100 U	100 U	100 U
Magnesium (Mg), total.....	884.5650	2598.0771	1879.9250	1136.5343
Manganese (Mn), total.....	35.6721	76.3781	36.4233	53.0288
Molybdenum(Mo), total.....	14.0408 U	14.6135 U	14.3154 U	14.4382 U
Sodium (Na), total.....	1340.2606 U	1394.9276 U	1366.4700 U	1378.1881 U
Nickel (Ni), total.....	23.6141 U	24.5773 U	24.0759 U	24.2824 U
Lead (Pb), total.....	28	37	19	20
Antimony (Sb), total.....	5.2034	4.8248	4.1605	3.7579
Selenium (Se), total.....	1.0 U	1.0 U	1.0 U	1.0 U
Strontium (Sr), total.....	30.3144	86.2076	43.9629	28.9138
Thallium (Tl), total.....	5.2805 U	5.3807 U	5.3177 U	5.5878 U
Vanadium (V), total.....	20.1281	31.2786	24.5249	19.2139
Zinc (Zn), total.....	27.4453	73.5248	34.1478	17.7526

SOLAR POND BOREHOLE SAMPLES
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RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

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Sample Information

RFW Batch ID:	BH87-881-031	BH87-881-032	BH87-881-033	BH87-881-044
Customer ID:	SP048725DH	SP048727DH	SP048730DH	SP048732DH
Matrix:	Soil	Soil	Soil	Soil
Units:	MG/KG	MG/KG	MG/KG	MG/KG

Metals

Silver (Ag), total.....	4.7580 U	4.5761 U	4.6876 U	5.2708 U
Aluminum (Al), total.....	6840.2373	6533.6050	6388.0098	3856.3789
Arsenic (As), total.....	2.0	4.8	7.4	27
Barium (Ba), total.....	37.7834	919.3092	20.1551	27.6678
Beryllium (Be), total.....	2.3444 U	2.2588 U	3.3841	2.7220 U
Calcium (Ca), total.....	3640.3157	38269.7031	2583.1389	1034.2679
Cadmium (Cd), total.....	2.8991	3.9734	2.7885	2.1660
Cobalt (Co), total.....	13.7732 U	13.2467 U	13.5692 U	15.2576 U
Chromium (Cr), total.....	6.2605 U	6.0212 U	6.1678 U	6.9353 U
Cesium (Cs), total.....				
Copper (Cu), total.....	18.9024	5.5254	9.5721	4.6555
Iron (Fe), total.....	6807.7695	8446.3311	7190.6680	6124.8291
Mercury (Hg), total.....	0.2	0.2 U	0.2 U	0.2 U
Potassium (K), total.....	1000 U	1000 U	1000 U	1000
Lithium (Li), total.....	100 U	100 U	100 U	100 U
Magnesium (Mg), total.....	1888.5730	1456.5388	1817.3781	1052.2653
Manganese (Mn), total.....	58.1891	67.8069	22.9845	15.4476
Molybdenum(Mo), total.....	13.7732 U	13.2467 U	13.5692 U	15.2576 U
Sodium (Na), total.....	1314.7150 U	1264.4535 U	1295.2443 U	1456.4069 U
Nickel (Ni), total.....	23.1640 U	22.2785 U	30.2832	25.6605 U
Lead (Pb), total.....	21	19	16	20
Antimony (Sb), total.....	5.8707	2.3151	3.8140	5.2339
Selenium (Se), total.....	1.0 U	1.0 U	1.0 U	1.0 U
Strontium (Sr), total.....	46.4660	67.1238	34.2277	19.8432
Thallium (Tl), total.....	5.0590 U	4.8743 U	4.8891 U	5.8738 U
Vanadium (V), total.....	22.3496	31.1422	20.0769	26.5153
Zinc (Zn), total.....	34.9453	48.8023	49.8176	38.0185

SOLAR POND BOREHOLE SAMPLES
METALS
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RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

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Sample Information

RFW Batch ID:	BH87-881-054	BH87-881-055	BH87-881-056	BH87-881-058
Customer ID:	SP058702DH	SP058704DH	SP058707DH	SP058710DH
Matrix:	Soil	Soil	Soil	Soil
Units:	MG/KG	MG/KG	MG/KG	MG/KG

Metals

Silver (Ag), total.....	5.4355 U	5.1260 U	5.3562 U	5.4394 U
Aluminum (Al), total.....	10141.6133	11241.9668	16122.5410 U	9276.1611
Arsenic (As), total.....	30	15	4.2	12
Barium (Ba), total.....	166.1240	45.3992	132.2499	201.6574
Beryllium (Be), total.....	2.7178 U	2.5630 U	2.6781 U	2.7197 U
Calcium (Ca), total.....	726.4161	955.7430	90979.6250	48641.1992
Cadmium (Cd), total.....	16.4508	10.4682	83.6809	21.9674
Cobalt (Co), total.....	15.7344 U	14.8384 U	19.9379	29.4787
Chromium (Cr), total.....	14.0409	14.9609	14.1349	780.5003
Cesium (Cs), total.....				
Copper (Cu), total.....	58.4803	32.6016	13.0121	22.7704
Iron (Fe), total.....	12535.9170	13182.9395	19068.6660	15349.3252
Mercury (Hg), total.....	0.2 U	0.2 U	0.2 U	0.2 U
Potassium (K), total.....	2600	2600	2900	3900
Lithium (Li), total.....	100 U	100 U	100 U	100 U
Magnesium (Mg), total.....	1143.1780	1016.4666	3109.6411	1750.7233
Manganese (Mn), total.....	83.6274	81.3164	508.8988	802.1201
Molybdenum(Mo), total.....	15.7344 U	14.8384 U	15.5048 U	15.7455 U
Sodium (Na), total.....	1501.9158 U	1416.3879 U	1480.0000 U	1660.6731
Nickel (Ni), total.....	26.4623 U	24.9554 U	26.0762 U	474.4652
Lead (Pb), total.....	20	17	5.3	7.9
Antimony (Sb), total.....	3.1673	2.2258 U	2.8288	2.3922
Selenium (Se), total.....	1.3	1.2	1.0 U	1.0 U
Strontium (Sr), total.....	14.3040 U	13.4894 U	85.0676	39.1634
Thallium (Tl), total.....	5.8646 U	5.5307 U	5.7790 U	5.8688 U
Vanadium (V), total.....	47.3648	43.8433	32.2998	25.1843
Zinc (Zn), total.....	32.5544	26.2507	24.7452	20.0000

SOLAR POND BOREHOLE SAMPLES
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INORGANICS DATA SUMMARY REPORT

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

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Sample Information

RFW Batch ID:	BH87-881-059	BH87-881-060	BH87-881-035	BH87-881-036
Customer ID:	SP058712DH	SP058716DH	SP068702FS	SP068708DH
Matrix:	Soil	Soil	Soil	Soil
Units:	MG/KG	MG/KG	MG/KG	MG/KG

Metals

Silver (Ag), total.....	5.0110 U	5.6518 U	4.9734 U	4.1843 U
Aluminum (Al), total.....	10905.2676	6771.7856	17724.6367	12521.6816
Arsenic (As), total.....	2.5	2.8	35	16
Barium (Ba), total.....	110.3728	88.5829	151.8637	95.7360
Beryllium (Be), total.....	2.5055 U	2.8259 U	5.2238	2.0922 U
Calcium (Ca), total.....	20810.4473	7403.0737	109941.742	2618.8726
Cadmium (Cd), total.....	19.9581	7.3013	5.0790	2.1165
Cobalt (Co), total.....	17.4387	17.1233	14.3967 U	12.1126 U
Chromium (Cr), total.....	132.3294	11.1306	15.6898	12.5504
Cesium (Cs), total.....				
Copper (Cu), total.....	21.5672	15.3616	8.2002	10.6816
Iron (Fe), total.....	14482.1406	5413.5566	12789.8994	13333.8076
Mercury (Hg), total.....	0.25	0.2 U	0.2 U	0.2 U
Potassium (K), total.....	3800	3400	1800	3300
Lithium (Li), total.....	100 U	100 U	100 U	100 U
Magnesium (Mg), total.....	1798.0879	1826.3550	3827.7395	1966.9459
Manganese (Mn), total.....	233.2486	171.0319	95.8549	289.6226
Molybdenum(Mo), total.....	14.5055 U	16.3603 U	14.3967 U	12.1126 U
Sodium (Na), total.....	1665.3607	3578.0984	1374.2285 U	1156.1991 U
Nickel (Ni), total.....	24.3956 U	27.5151 U	24.2126 U	24.0721
Lead (Pb), total.....	5.1	18	9.0	17
Antimony (Sb), total.....	2.8292	3.7912	9.0397	3.4603
Selenium (Se), total.....	1.0 U	1.0 U	1.0 U	1.0 U
Strontium (Sr), total.....	29.8433	47.6490	179.0194	21.7454
Thallium (Tl), total.....	5.4066 U	6.0979 U	5.3660 U	4.5147 U
Vanadium (V), total.....	15.8242 U	22.0397	44.0265	37.6274
Zinc (Zn), total.....	18.0426	37.0399	21.8525	33.2483

SOLAR POND BOREHOLE SAMPLES
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RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

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Sample Information

RFW Batch ID:	BH87-881-037	BH87-881-038	BH87-881-039	BH87-881-040
Customer ID:	SP068711DH	SP068713DH	SP068716DH	SP068718DH
Matrix:	Soil	Soil	Soil	Soil
Units:	MG/KG	MG/KG	MG/KG	MG/KG

Metals

Silver (Ag), total.....	4.7316 U	4.1079 U	4.2291 U	4.5866 U
Aluminum (Al), total.....	8472.9521	5722.7881	6086.6602	11478.9277
Arsenic (As), total.....	8.8	11	8.6	3.7
Barium (Ba), total.....	152.5921	58.4571	26.9739	68.9190
Beryllium (Be), total.....	2.3658 U	2.0539 U	2.1146 U	2.2933 U
Calcium (Ca), total.....	143650.531	8907.6943	12081.1406	48271.4219
Cadmium (Cd), total.....	4.4463	2.1460	2.2883	3.6249
Cobalt (Co), total.....	13.6968 U	11.8913 U	12.2422 U	13.2770 U
Chromium (Cr), total.....	11.3359	8.5724	8.9717	13.9723
Cesium (Cs), total.....				
Copper (Cu), total.....	5.4880	5.7873	7.1134	24.4353
Iron (Fe), total.....	6950.5830	8704.5352	10675.3496	14390.0078
Mercury (Hg), total.....	0.2 U	0.2 U	0.2 U	0.2 U
Potassium (K), total.....	1100	870 J	1200	1300
Lithium (Li), total.....	100 U	100 U	100 U	100 U
Magnesium (Mg), total.....	3628.0833	1835.5624	1945.7057	5217.1704
Manganese (Mn), total.....	82.0246	122.8515	84.9463	26.0670
Molybdenum(Mo), total.....	13.6968 U	11.8913 U	12.2422 U	13.2770 U
Sodium (Na), total.....	1307.4187 U	1135.0773 U	1168.5726 U	1267.3507 U
Nickel (Ni), total.....	23.0355 U	19.9990 U	20.5891 U	22.3295 U
Lead (Pb), total.....	6.6	4.4	4.9	25
Antimony (Sb), total.....	4.8727	3.6972	5.0378	8.0190
Selenium (Se), total.....	1.0 U	1.0 U	1.0 U	1.0 U
Strontium (Sr), total.....	250.7720	44.4529	50.4669	162.1024
Thallium (Tl), total.....	5.1052 U	4.4322 U	4.5630 U	4.9487 U
Vanadium (V), total.....	31.2442	32.9991	27.9633	43.3660
Zinc (Zn), total.....	15.0326	10.8103 U	11.1293 U	61.0207

SOLAR POND BOREHOLE SAMPLES
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RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

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Sample Information

RFW Batch ID:	BH87-881-041	BH87-881-042	BH87-881-043	BH87-881-097
Customer ID:	SP068721DH	SP068724DH	SP068726DH	SP078700DH
Matrix:	Soil	Soil	Soil	Soil
Units:	MG/KG	MG/KG	MG/KG	MG/KG

Metals

Silver (Ag), total.....	5.1244 U	4.7906 U	4.6412 U	4.7753 U
Aluminum (Al), total.....	13629.5547	11921.4551	14798.7637	24579.4609
Arsenic (As), total.....	17	29	19	8.5
Barium (Ba), total.....	74.2006	61.9227	89.0269	125.3209
Beryllium (Be), total.....	2.5622 U	2.3953 U	3.0280	2.3876 U
Calcium (Ca), total.....	8135.2412	2724.8923	3318.8394	48884.2734
Cadmium (Cd), total.....	3.1385	2.9506	2.6979	8.0138
Cobalt (Co), total.....	14.8336 U	16.4529	13.4351 U	13.8232 U
Chromium (Cr), total.....	17.3966	39.7522	21.9288	21.8659
Cesium (Cs), total.....				
Copper (Cu), total.....	17.6548	30.4298	23.4726	43.5301
Iron (Fe), total.....	11126.2910	17706.2910	9508.2402	17301.5801
Mercury (Hg), total.....	0.2 U	0.2 U	0.2 U	0.23
Potassium (K), total.....	2200	1500	2000	4300
Lithium (Li), total.....	100 U	100 U	100 U	100 U
Magnesium (Mg), total.....	4063.2717	3524.2986	4386.1831	3397.2693
Manganese (Mn), total.....	113.3128	86.7988	29.2954	269.5365
Molybdenum(Mo), total.....	14.8336 U	13.8675 U	13.4351 U	13.8232 U
Sodium (Na), total.....	1415.9391 U	1323.7179 U	1282.4427 U	1319.4888 U
Nickel (Ni), total.....	24.9475 U	28.4144	22.5954 U	28.9253
Lead (Pb), total.....	24	6.7	27	11
Antimony (Sb), total.....	8.2519	6.7015	7.2283	4.1582
Selenium (Se), total.....	1.0 U	1.0 U	1.0 U	1.0 U
Strontium (Sr), total.....	112.9193	100.6016	122.5637	81.2858
Thallium (Tl), total.....	5.5289 U	5.1688 U	5.0076 U	5.1523 U
Vanadium (V), total.....	42.9086	30.4026	36.0007	50.0953
Zinc (Zn), total.....	72.7185	114.4193	74.3914	50.6823

SOLAR POND BOREHOLE SAMPLES
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RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

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Sample Information

RFW Batch ID:	BH87-881-098	BH87-881-099	BH87-881-100	BH87-881-101
Customer ID:	SP078702DH	SP078708FS	SP078711DH	SP078713DH
Matrix:	Soil	Soil	Soil	Soil
Units:	MG/KG	MG/KG	MG/KG	MG/KG

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Metals

Silver (Ag), total.....	4.4798 U	5.0474 U	4.4466 U	5.1162 U
Aluminum (Al), total.....	16435.3496	30264.9863	9232.1279	22723.6973
Arsenic (As), total.....	6.2	12	8.4	9.6
Barium (Ba), total.....	62.7661	162.5820	80.4814	147.8362
Beryllium (Be), total.....	2.2399 U	2.5237 U	2.2233 U	2.5581 U
Calcium (Ca), total.....	10644.3926	44678.8242	2297.4766	3155.2739
Cadmium (Cd), total.....	3.3661	2.8549	2.6252	3.3610
Cobalt (Co), total.....	12.9677 U	14.6108 U	12.8717 U	14.8101 U
Chromium (Cr), total.....	21.3246	25.0922	10.2626	22.0065
Cesium (Cs), total.....				
Copper (Cu), total.....	9.9756	26.1541	12.3615	21.0427
Iron (Fe), total.....	12694.1318	21846.4824	10476.1270	23822.5938
Mercury (Hg), total.....	0.18 J	0.2 U	0.2 U	0.2
Potassium (K), total.....	2500	2500	2400	1700
Lithium (Li), total.....	100 U	100 U	100 U	100 U
Magnesium (Mg), total.....	1643.5381	3587.4817	1266.7900	2214.3098
Manganese (Mn), total.....	108.3153	163.4268	290.6646	224.2056
Molybdenum(Mo), total.....	12.9677 U	14.6108 U	12.8717 U	14.8101 U
Sodium (Na), total.....	1237.8268 U	1394.6653 U	1228.6635 U	1413.6938 U
Nickel (Ni), total.....	21.8093 U	58.2364	21.6479 U	49.4069
Lead (Pb), total.....	20	15	21	9.7
Antimony (Sb), total.....	4.3221	4.0888	1.9308 U	3.7223
Selenium (Se), total.....	1.0 U	1.0 U	1.0 U	1.0 U
Strontium (Sr), total.....	29.0397	80.5560	19.5846	27.6547
Thallium (Tl), total.....	4.8334 U	5.4458	4.7976 U	5.5201 U
Vanadium (V), total.....	47.4802	41.0604	26.0389	48.6043
Zinc (Zn), total.....	25.9905	52.3144	37.2169	31.8398

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RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

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Sample Information

RFW Batch ID:	BH87-881-107	BH87-881-108	BH87-881-109	BH87-881-110
Customer ID:	SP078716DH	SP078718WT	SP078721CT	SP078723BR
Matrix:	Soil	Soil	Soil	Soil
Units:	MG/KG	MG/KG	MG/KG	MG/KG

Metals

Silver (Ag), total.....	4.8187 U	4.4869 U	5.0105 U	5.3208 U
Aluminum (Al), total.....	9112.9990	4637.2710	12139.8340	10902.4258
Arsenic (As), total.....	4.3	7.0	29	64
Barium (Ba), total.....	75.9463	18.9557	82.8200	86.0572
Beryllium (Be), total.....	2.4093 U	2.2435 U	2.5053 U	2.6604 U
Calcium (Ca), total.....	56105.0820	988.3888	5208.3071	4183.0991
Cadmium (Cd), total.....	3.8855	2.1379	2.5787	2.8051
Cobalt (Co), total.....	13.9488 U	12.9885 U	14.5042 U	15.4024 U
Chromium (Cr), total.....	586.0095	393.5178	91.9192	14.8731
Cesium (Cs), total.....				
Copper (Cu), total.....	23.2102	19.7785	29.1755	20.5881
Iron (Fe), total.....	13444.2412	13995.6748	13348.9912	8349.3672
Mercury (Hg), total.....	0.2 U	0.2 U	0.2 U	0.2 U
Potassium (K), total.....	1100	1200	2100	1500
Lithium (Li), total.....	100 U	100 U	100 U	100 U
Magnesium (Mg), total.....	2518.3230	903.1175	3030.3042	3105.1472
Manganese (Mn), total.....	212.0189	123.4241	132.7174	60.2720
Molybdenum(Mo), total.....	13.9488 U	12.9885 U	14.5042 U	15.4024 U
Sodium (Na), total.....	1331.4794 U	1239.8119 U	1611.2615	1470.2316 U
Nickel (Ni), total.....	514.0565	312.9998	94.4750	27.4078
Lead (Pb), total.....	4.7	4.8	24	30
Antimony (Sb), total.....	3.8826	2.1765	3.9220	6.1017
Selenium (Se), total.....	1.0 U	1.0 U	1.0 U	1.0 U
Strontium (Sr), total.....	85.3752	11.8077 U	89.2024	93.4381
Thallium (Tl), total.....	5.1991 U	4.8412 U	5.4061 U	5.7409
Vanadium (V), total.....	18.8700	36.0647	28.0557	16.8026 U
Zinc (Zn), total.....	21.0363	14.1172	64.3106	59.5645

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RFW Batch Number:

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Sample Information

RFW Batch ID:	BH87-881-111	BH87-881-006	BH87-881-013	BH87-881-014
Customer ID:	SP0787260H	SP088703UC	SP088706CT	SP088709BR
Matrix:	Soil	Soil	Soil	Soil
Units:	MG/KG	MG/KG	MG/KG	MG/KG

Metals

Silver (Ag), total.....	4.9638 U	4.7527 U	4.9119 U	5.2462 U
Aluminum (Al), total.....	14758.6426	3968.5112	7159.2080	4785.1421
Arsenic (As), total.....	55	5.9	2.0 U	3.3
Barium (Ba), total.....	54.3569	20.0376	19.8946	28.4413
Beryllium (Be), total.....	2.4819 U	2.3764 U	2.4559 U	2.6231 U
Calcium (Ca), total.....	4893.8643	6321.5371	1678.6605	1952.7460
Cadmium (Cd), total.....	2.8779	1.7921	1.8980	1.6369
Cobalt (Co), total.....	14.3689 U	13.7579 U	14.2186 U	15.1863 U
Chromium (Cr), total.....	24.5012	6.2536 U	6.4855	6.9029 U
Cesium (Cs), total.....				
Copper (Cu), total.....	22.8470	6.4101	9.2471	7.6399
Iron (Fe), total.....	11157.1289	5269.9995	5751.4341	4696.7539
Mercury (Hg), total.....	0.2 U	0.2 U	0.2 U	0.2 U
Potassium (K), total.....	1100	4000	3500	1500
Lithium (Li), total.....	100 U	100 U	100 U	100 U
Magnesium (Mg), total.....	2959.9529	739.9830	1535.6863	1314.2607
Manganese (Mn), total.....	52.6119	30.5728	41.1966	67.2958
Molybdenum(Mo), total.....	14.3689 U	13.7579 U	14.2186 U	15.1863 U
Sodium (Na), total.....	1371.5760 U	1313.2531 U	1827.0953	1449.6029 U
Nickel (Ni), total.....	24.1659 U	23.1383 U	23.9130 U	25.5406 U
Lead (Pb), total.....	25	28	24	2.3
Antimony (Sb), total.....	5.8635	4.9427	4.7053	4.4976
Selenium (Se), total.....	1.0 U	1.0 U	0.9 J	1.0 U
Strontium (Sr), total.....	75.0452	13.1030	15.0171	19.6052
Thallium (Tl), total.....	5.3557	5.1279 U	5.2996 U	5.6604 U
Vanadium (V), total.....	49.2187	15.0086 U	15.5112 U	16.5669 U
Zinc (Zn), total.....	71.8803	20.7202	34.3555	26.6176

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RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

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Sample Information

RFW Batch ID:	BH87-881-023	BH87-881-024	BH87-881-071	BH87-881-087
Customer ID:	SP098706CT	SP098708RR	SP108700DH	SP1087017D
Matrix:	Soil	Soil	Soil	Soil
Units:	MG/KG	MG/KG	MG/KG	MG/KG

Metals

Silver (Ag), total.....	4.8929 U	4.7646 U	4.7681 U	4.8707 U
Aluminum (Al), total.....	6553.5908	10201.8125	10997.4609	9461.2373
Arsenic (As), total.....	2.0 U	9.0	8.0	3.4
Barium (Ba), total.....	66.9900	63.4126	79.9563	87.7437
Beryllium (Be), total.....	4.4770	2.3823 U	2.3841 U	2.4354 U
Calcium (Ca), total.....	2836.4290	4141.4092	17391.3359	4378.8843
Cadmium (Cd), total.....	1.9789	2.2482	4.0355	2.7530
Cobalt (Co), total.....	14.1636 U	13.7924 U	13.8025 U	14.0994 U
Chromium (Cr), total.....	6.4380 U	13.2480	10.5170	7.7694
Cesium (Cs), total.....				
Copper (Cu), total.....	14.9800	19.9653	12.4492	10.6761
Iron (Fe), total.....	3491.3313	7600.2026	10441.6611	10115.9355
Mercury (Hg), total.....	0.2 U	0.2 U	0.2 U	0.2 U
Potassium (K), total.....	1400	1100	3600	1000
Lithium (Li), total.....	100 U	100 U	100 U	100 U
Magnesium (Mg), total.....	1556.5156	2542.0427	1674.7771	2088.5320
Manganese (Mn), total.....	19.4910	31.5603	139.8286	99.9442
Molybdenum(Mo), total.....	14.1636 U	13.7924 U	13.8025	14.0994 U
Sodium (Na), total.....	1351.9789 U	1316.5468 U	1317.5123 U	1345.8563 U
Nickel (Ni), total.....	23.8206 U	23.1963 U	23.2133 U	23.7127 U
Lead (Pb), total.....	20	28	22	17
Antimony (Sb), total.....	5.0409	2.3226	2.2914	3.8239
Selenium (Se), total.....	1.0 U	1.0 U	1.0 U	1.0 U
Strontium (Sr), total.....	78.9327	85.3364	34.6784	36.0053
Thallium (Tl), total.....	5.2792 U	5.1408 U	5.1446 U	5.2552 U
Vanadium (V), total.....	20.9679 U	27.1384	31.1566	15.3812 U
Zinc (Zn), total.....	28.7914	68.6979	37.2888	61.2966

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RFW Batch Number:

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Sample Information

RFW Batch ID:	BH87-881-072	BH87-881-073	BH87-881-074	BH87-881-075
Customer ID:	SP108702DH	SP108704BR	SP108705DH	SP108707DH
Matrix:	Soil	Soil	Soil	Soil
Units:	MG/KG	MG/KG	MG/KG	MG/KG

Metals

Silver (Ag), total.....	5.1874 U	4.9921 U	5.5219	5.0300 U
Aluminum (Al), total.....	9561.7236	7880.0576	8315.8359	4059.2974
Arsenic (As), total.....	5.4	5.9	3.6	7.0
Barium (Ba), total.....	166.1359	130.7416	95.1661	50.3737
Beryllium (Be), total.....	11.4445	3.6578	2.4491 U	2.5150 U
Calcium (Ca), total.....	39223.7422	20445.0566	13617.8330	2444.0510
Cadmium (Cd), total.....	3.0477	3.1792	2.0760	2.8176
Cobalt (Co), total.....	15.9527	14.4509 U	14.1788 U	14.5606
Chromium (Cr), total.....	12.6084	13.2230	9.6282	6.6185
Cesium (Cs), total.....				
Copper (Cu), total.....	17.7785	22.4125	21.6760	9.5689
Iron (Fe), total.....	17124.2227	35794.7344	27514.6035	7066.4751
Mercury (Hg), total.....	0.2 U	0.2 U	0.2 U	0.2 U
Potassium (K), total.....	1600	1100	1100	1100
Lithium (Li), total.....	100 U	100 U	100 U	100 U
Magnesium (Mg), total.....	2670.1360	2419.7397	2453.0784	1064.7352
Manganese (Mn), total.....	205.3798	509.1434	118.7996	66.2806
Molybdenum(Mo), total.....	15.0163 U	14.4509 U	14.1788 U	14.5606 U
Sodium (Na), total.....	1433.3694 U	1379.4010 U	1353.4304 U	1389.8777 U
Nickel (Ni), total.....	25.2546 U	24.3037 U	23.8462 U	24.4883
Lead (Pb), total.....	16	22	17	21
Antimony (Sb), total.....	4.2263	2.1676 U	2.8574	2.1841 U
Selenium (Se), total.....	1.0 U	1.0 U	1.0 U	1.0 U
Strontium (Sr), total.....	78.4589	65.6218	58.8300	24.4749
Thallium (Tl), total.....	5.5970 U	5.3862 U	5.2848 U	5.4271
Vanadium (V), total.....	16.3814 U	20.8841	15.4678 U	15.8843 U
Zinc (Zn), total.....	53.4563	68.2930	65.8006	22.6091

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Sample Information

RFW Batch ID:	BH87-881-077	BH87-881-078	BH87-881-079	BH87-881-086
Customer ID:	SP108711DH	SP108713DH	SP108715DH	SP108717DH
Matrix:	Soil	Soil	Soil	Soil
Units:	MG/KG	MG/KG	MG/KG	MG/KG

Metals

Silver (Ag), total.....	4.9657 U	4.5901 U	4.8728 U	4.5917 U
Aluminum (Al), total.....	10613.6797	7390.7783	5337.0874	7236.2070
Arsenic (As), total.....	4.7	2.0	4.1	3.4
Barium (Ba), total.....	120.2224	67.5870	36.2122	98.7589
Beryllium (Be), total.....	2.4828 U	2.4158	2.7321	3.6627
Calcium (Ca), total.....	4153.1597	3547.7944	2124.3560	3451.5979
Cadmium (Cd), total.....	2.6483	2.0143	2.6610	2.5593
Cobalt (Co), total.....	14.3743 U	13.2870 U	14.1055 U	16.0852
Chromium (Cr), total.....	9.7536	10.4177	7.5345	9.0557
Cesium (Cs), total.....				
Copper (Cu), total.....	14.7796	11.9763	10.2829	11.0292
Iron (Fe), total.....	5855.2471	6611.2026	4849.6709	6904.8188
Mercury (Hg), total.....	0.2 U	0.2 U	0.2 U	0.2 U
Potassium (K), total.....	1000	1000 U	1000 U	1100
Lithium (Li), total.....	100 U	100 U	100 U	100 U
Magnesium (Mg), total.....	1614.5580	1449.8440	1246.7448	1527.9768
Manganese (Mn), total.....	15.3516	49.5976	21.9864	425.7629
Molybdenum(Mo), total.....	14.3743 U	13.2870 U	14.1055 U	13.2917 U
Sodium (Na), total.....	1372.0930 U	1268.3057 U	1346.4323 U	1268.7500 U
Nickel (Ni), total.....	24.1750 U	22.3463 U	23.7229 U	22.3542 U
Lead (Pb), total.....	17	17	9.0	12
Antimony (Sb), total.....	2.2406	1.9931 U	3.1652	2.4895
Selenium (Se), total.....	1.0 U	1.0 U	1.0 U	1.0 U
Strontium (Sr), total.....	33.8395	29.8505	16.4814	39.2725
Thallium (Tl), total.....	5.3577 U	4.9524 U	5.2575 U	4.9542 U
Vanadium (V), total.....	15.6811 U	14.4949 U	15.3878 U	14.5000 U
Zinc (Zn), total.....	35.5319	36.0759	42.2293	44.0459

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Sample Information

RFW Batch ID:	BH87-881-088	BH87-881-089	BH87-881-095	BH87-881-096
Customer ID:	SP108719DH	SP108721WT	SP108723DH	SP108724DH
Matrix:	Soil	Soil	Soil	Soil
Units:	MG/KG	MG/KG	MG/KG	MG/KG

Metals

Silver (Ag), total.....	4.6687 U	5.4775 U	4.5952 U	4.8091 U
Aluminum (Al), total.....	15699.0830	12056.5049	11807.0098	10209.5801
Arsenic (As), total.....	5.3	2.1	2.5	3.4
Barium (Ba), total.....	94.4078	78.1214	108.5335	46.3019
Beryllium (Be), total.....	2.3343 U	2.7387 U	2.2976 U	2.4045 U
Calcium (Ca), total.....	6820.9590	7454.2163	4610.6489	4460.8799
Cadmium (Cd), total.....	100.6616	2.7127	2.8459	2.9537
Cobalt (Co), total.....	13.5146 U	15.8559 U	13.3018 U	13.9210
Chromium (Cr), total.....	15.5294	9.1269	10.5320	7.0497
Cesium (Cs), total.....				
Copper (Cu), total.....	17.0238	22.9677	7.7859	10.3876
Iron (Fe), total.....	11511.1816	8064.9346	5088.5801	6434.1040
Mercury (Hg), total.....	0.2	0.2 U	0.2 U	0.24
Potassium (K), total.....	1500	1400	1200	950 J
Lithium (Li), total.....	100 U	100 U	100 U	100 U
Magnesium (Mg), total.....	2684.5422	2298.0342	1694.7968	1792.9387
Manganese (Mn), total.....	43.1264	31.8018	24.7546	46.7755
Molybdenum (Mo), total.....	13.5146 U	15.8559 U	13.3018 U	13.9210 U
Sodium (Na), total.....	1290.0303 U	1513.5135 U	1269.7161 U	1328.8264 U
Nickel (Ni), total.....	22.7291 U	26.6667 U	22.3712 U	23.4127 U
Lead (Pb), total.....	26	27	18	18
Antimony (Sb), total.....	4.6991	3.1946	2.1679	2.5243
Selenium (Se), total.....	1.0 U	1.0 U	1.0 U	1.0 U
Strontium (Sr), total.....	69.8480	86.5850	49.8968	50.0194
Thallium (Tl), total.....	5.0373 U	5.9099 U	4.9579 U	5.1888 U
Vanadium (V), total.....	14.7432 U	23.7727	22.9561	26.4956
Zinc (Zn), total.....	51.9555	50.9199	36.1526	55.8000

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Sample Information

RFW Batch ID:	BH87-881-045	BH87-881-034	BH87-881-046	BH87-881-047
Customer ID:	SP11870008	SP118708DH	SP118711DH	SP118714DH
Matrix:	Soil	Soil	Soil	Soil
Units:	MG/KG	MG/KG	MG/KG	MG/KG

Metals

Silver (Ag), total.....	4.7165 U	4.9438 U	4.8703 U	4.7984 U
Aluminum (Al), total.....	3027.0559	7888.6597	4992.9146	6936.2925
Arsenic (As), total.....	6.1	5.1	4.9	6.3
Barium (Ba), total.....	51.9740	105.1292	74.1090	92.6253
Beryllium (Be), total.....	2.4695 U	3.1130	3.1012	2.3992 U
Calcium (Ca), total.....	6246.5269	5131.8975	3062.0996	5715.7617
Cadmium (Cd), total.....	2.3714	3.4179	1.8347	2.2755
Cobalt (Co), total.....	13.6529 U	14.3111 U	14.0982 U	13.8900 U
Chromium (Cr), total.....	6.2059 U	6.5050 U	6.4083 U	6.3136 U
Cesium (Cs), total.....				
Copper (Cu), total.....	6.0400	10.1376	8.8529	10.4387
Iron (Fe), total.....	7263.6670	11180.7686	9234.2656	10065.9443
Mercury (Hg), total.....	0.2 U	0.2 U	0.2 U	0.2 U
Potassium (K), total.....	1100	1400	1400	1600
Lithium (Li), total.....	100 U	100 U	100 U	100 U
Magnesium (Mg), total.....	1221.5802	1754.7926	1328.9642	1785.7340
Manganese (Mn), total.....	170.7746	171.3658	93.0562	205.1515
Molybdenum (Mo), total.....	13.6529 U	14.3111 U	14.0982 U	13.8900 U
Sodium (Na), total.....	1303.2312 U	1366.0555 U	1345.7366 U	1325.8656 U
Nickel (Ni), total.....	22.9617 U	24.0686 U	25.1847	29.2828
Lead (Pb), total.....	27	17	24	21
Antimony (Sb), total.....	4.4147	2.2801	2.8456	6.2159
Selenium (Se), total.....	1.0 U	1.0 U	1.0 U	1.0 U
Strontium (Sr), total.....	22.8165	32.4674	48.3218	48.7611
Thallium (Tl), total.....	5.3289 U	5.4576 U	5.2548 U	5.1772 U
Vanadium (V), total.....	22.2846	36.7325	25.5338	30.1766
Zinc (Zn), total.....	30.7846	39.9186	45.0616	49.9613

SOLAR POND BOREHOLE SAMPLES
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RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

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Sample Information

RFW Batch ID:	BH87-881-048	BH87-881-049	BH87-881-050	BH87-881-051
Customer ID:	SP118716DH	SP118719DH	SP118721DH	SP118724DH
Matrix:	Soil	Soil	Soil	Soil
Units:	MG/KG	MG/KG	MG/KG	MG/KG

Metals

Silver (Ag), total.....	4.9158 U	4.5514 U	4.3308 U	4.5426 U
Aluminum (Al), total.....	8580.0400	4022.3306	1430.8534	4174.4302
Arsenic (As), total.....	7.4	5.4	3.0	2.5
Barium (Ba), total.....	117.5529	37.8619	21.5632	51.5583
Beryllium (Be), total.....	2.4579 U	2.2757 U	2.1654 U	2.2713 U
Calcium (Ca), total.....	2872.7556	7882.5796	772.4771	2377.0010
Cadmium (Cd), total.....	1.5836	2.1621	1.9054	2.8755
Cobalt (Co), total.....	14.2300 U	13.1750 U	12.5366 U	13.1497 U
Chromium (Cr), total.....	7.6179	5.9886 U	5.6984 U	5.9771 U
Cesium (Cs), total.....				
Copper (Cu), total.....	10.6982	8.9666	3.5900 U	13.2599
Iron (Fe), total.....	17913.5117	5892.2856	2416.8628	7806.1587
Mercury (Hg), total.....	0.2 U	0.2	0.2 U	0.2 U
Potassium (K), total.....	1900	1000	1000 U	1100
Lithium (Li), total.....	100 U	100 U	100 U	100 U
Magnesium (Mg), total.....	1991.4700	1270.5951	516.3915	1437.0243
Manganese (Mn), total.....	330.1747	68.5208	24.7978	137.4513
Molybdenum(Mo), total.....	14.2300 U	13.1750 U	12.5366 U	13.1497 U
Sodium (Na), total.....	1358.3162 U	1257.6149 U	1196.6716 U	1255.1975 U
Nickel (Ni), total.....	23.9322 U	22.1580 U	21.0842 U	22.1154 U
Lead (Pb), total.....	16	21	17	21
Antimony (Sb), total.....	5.7438	4.8381	3.6940	4.7448
Selenium (Se), total.....	1.0 U	1.0 U	1.0 U	1.0 U
Strontium (Sr), total.....	41.9154	45.8203	17.4458	42.9620
Thallium (Tl), total.....	5.3039 U	4.9107 U	4.6727 U	4.9012 U
Vanadium (V), total.....	43.4910	25.6032	17.5376	14.3451 U
Zinc (Zn), total.....	46.5113	46.6868	17.4719	45.7804

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RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

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Sample Information

RFW Batch ID:	BH87-881-052	BH87-881-061	BH87-881-080	BH87-881-081
Customer ID:	SP118726DH	SP118729DH	SP12870009	SP12870916
Matrix:	Soil	Soil	Soil	Soil
Units:	MG/KG	MG/KG	MG/KG	MG/KG

Metals

Silver (Ag), total.....	4.6370 U	5.2102 U	4.8660 U	4.9259 U
Aluminum (Al), total.....	6434.8384	9891.5254	3277.7385	4150.4360
Arsenic (As), total.....	1.9	2.5	3.4	5.7
Barium (Ba), total.....	71.2666	90.1611	27.4575	48.0175
Beryllium (Be), total.....	2.3185 U	2.6051 U	2.4330 U	2.4630 U
Calcium (Ca), total.....	4191.8398	6571.4048	2076.3572	3025.4209
Cadmium (Cd), total.....	2.2478	2.6353	2.2624	3.5042
Cobalt (Co), total.....	13.4230 U	17.6816	14.0857 U	14.2593 U
Chromium (Cr), total.....	6.9098	611.9934	6.4026 U	6.4815 U
Cesium (Cs), total.....				
Copper (Cu), total.....	16.8736	31.8304	7.1063	9.3495
Iron (Fe), total.....	8214.4609	18835.1074	2550.2820	2213.3069
Mercury (Hg), total.....	0.2 U	0.2 U	0.2 U	0.2 U
Potassium (K), total.....	1400	1500	1000 U	1000 U
Lithium (Li), total.....	100 U	100 U	100 U	100 U
Magnesium (Mg), total.....	2374.9055	3329.5776	764.6980	895.6759
Manganese (Mn), total.....	99.3270	275.8702	10.5978	7.9006
Molybdenum(Mo), total.....	13.4230 U	15.0822 U	14.0857 U	14.2593 U
Sodium (Na), total.....	1281.2822 U	1439.6602 U	1344.5469 U	1361.1112 U
Nickel (Ni), total.....	22.6628	366.3510	23.6896 U	23.9815 U
Lead (Pb), total.....	25	20	23	24
Antimony (Sb), total.....	6.3159	5.0554	4.9960	3.9800
Selenium (Se), total.....	1.0 U	0.8 J	1.0 U	1.0 U
Strontium (Sr), total.....	66.3585	95.5719	19.0078	25.6819
Thallium (Tl), total.....	5.0031 U	5.6215 U	5.2501 U	5.3148 U
Vanadium (V), total.....	14.6432 U	27.2563	15.3663 U	15.5556 U
Zinc (Zn), total.....	49.2546	84.2792	24.5063	25.5437

SOLAR POND BOREHOLE SAMPLES
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RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

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Sample Information

RFW Batch ID:	BH87-881-069	BH87-881-070	BH87-881-082	BH87-881-083
Customer ID:	SP128716DH	SP128719DH	SP128721DH	SP128724DH
Matrix:	Soil	Soil	Soil	Soil
Units:	MG/KG	MG/KG	MG/KG	MG/KG

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Metals

Silver (Ag), total.....	5.0667 U	5.1780 U	4.9681 U	4.4177 U
Aluminum (Al), total.....	17771.0469	16307.6553	6664.4478	2528.5815
Arsenic (As), total.....	2.0	4.2	7.7	4.0
Barium (Ba), total.....	143.0413	171.3810	65.9600	40.8253
Beryllium (Be), total.....	2.5333 U	2.5890 U	2.4841 U	2.2088 U
Calcium (Ca), total.....	17224.7480	7228.4126	1974.4653	1015.1147
Cadmium (Cd), total.....	3.2367	2.9804	3.3034	2.3462
Cobalt (Co), total.....	14.6667 U	14.9890 U	14.3814 U	12.7881 U
Chromium (Cr), total.....	39.7844	35.5966	7.2354	5.8128 U
Cesium (Cs), total.....				
Copper (Cu), total.....	19.2560	19.9803	9.4686	5.6257
Iron (Fe), total.....	12600.4316	17911.6367	9762.2705	7305.9966
Mercury (Hg), total.....	0.2 U	0.2 U	0.2 U	0.2 U
Potassium (K), total.....	1300	2100	3000	1000 U
Lithium (Li), total.....	100 U	100 U	100 U	100 U
Magnesium (Mg), total.....	2808.8660	2803.0396	1329.0854	613.4424
Manganese (Mn), total.....	117.5795	223.2827	128.3310	180.6135
Molybdenum(Mo), total.....	14.6667 U	14.9890 U	14.3814 U	12.7881 U
Sodium (Na), total.....	1400.0000 U	1430.7693 U	1372.7716 U	1220.6790 U
Nickel (Ni), total.....	24.6667 U	25.2088 U	24.1869 U	21.5072 U
Lead (Pb), total.....	20	22	19	10
Antimony (Sb), total.....	2.2181	5.6757	4.6092	1.9182 U
Selenium (Se), total.....	1.0 U	1.0 U	1.0 U	1.0 U
Strontium (Sr), total.....	56.5921	53.8361	21.1015	12.1115
Thallium (Tl), total.....	5.4667 U	5.5968 U	5.3603 U	4.7665 U
Vanadium (V), total.....	30.4498	45.6501	21.6783	13.9506 U
Zinc (Zn), total.....	50.4929	66.4235	32.9833	14.6807

SOLAR POND BOREHOLE SAMPLES
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Client: ROCKWELL (ROCKY FLATS)

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Sample Information

RFW Batch ID:	BH87-881-084	BH87-881-085	BH87-881-090	BH87-881-091
Customer ID:	SP128726DH	SP128729DH	SP128731DH	SP128734DH
Matrix:	Soil	Soil	Soil	Soil
Units:	MG/KG	MG/KG	MG/KG	MG/KG

Metals

Silver (Ag), total.....	4.8796 U	4.5778 U	4.7377 U	4.8280 U
Aluminum (Al), total.....	4177.1914	5779.7891	11755.2881	11099.0293
Arsenic (As), total.....	2.4	3.5	6.4	4.5
Barium (Ba), total.....	39.1924	39.8582	97.8809	74.3362
Beryllium (Be), total.....	2.4398 U	2.2889 U	2.3688 U	2.4140 U
Calcium (Ca), total.....	4336.2939	2513.5613	7658.0566	9273.2734
Cadmium (Cd), total.....	2.4906	2.5691	3.3635	3.2716
Cobalt (Co), total.....	14.1252 U	13.2517 U	13.7143 U	17.3157
Chromium (Cr), total.....	6.4205 U	9.5108	15.0141	10.6393
Cesium (Cs), total.....				
Copper (Cu), total.....	15.0261	13.6657	25.8832	22.9218
Iron (Fe), total.....	2082.2693	4104.0918	10875.1670	16855.8203
Mercury (Hg), total.....	0.2 U	0.2 U	0.2 U	0.2 U
Potassium (K), total.....	1000 U	1400	1300	1100
Lithium (Li), total.....	100 U	100 U	100 U	100 U
Magnesium (Mg), total.....	1268.9382	1598.5974	3058.2273	2784.3052
Manganese (Mn), total.....	14.0954	24.0126	69.3101	104.7534
Molybdenum(Mo), total.....	14.1252 U	13.2517 U	13.7143 U	13.9756 U
Sodium (Na), total.....	1348.3147 U	1264.9310	1309.0911 U	1334.0392 U
Nickel (Ni), total.....	23.7560 U	22.2869 U	23.0649 U	32.3457
Lead (Pb), total.....	26	24	21	22
Antimony (Sb), total.....	3.5185	4.5818	5.3369	5.1947
Selenium (Se), total.....	1.0 U	1.0 U	1.2	0.6 J
Strontium (Sr), total.....	48.0698	48.8679	92.8716	98.1042
Thallium (Tl), total.....	5.2648 U	4.9393 U	5.1117 U	5.2091 U
Vanadium (V), total.....	15.4093 U	15.3059	22.2650	28.7326
Zinc (Zn), total.....	27.5781	42.5013	91.2125	116.4405

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RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

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Sample Information

RFW Batch ID:	BH87-881-092	BH87-881-093	BH87-881-062	BH87-881-063
Customer ID:	SP1287390H	SP128741DH	SP138700UC	SP138701CT
Matrix:	Soil	Soil	Soil	Soil
Units:	MG/KG	MG/KG	MG/KG	MG/KG

Metals

Silver (Ag), total.....	4.4914 U	4.5735 U	4.8761 U	5.1045 U
Aluminum (Al), total.....	8453.5068	11220.7354	13770.3232	10069.7588
Arsenic (As), total.....	4.1	3.6	5.3	4.8
Barium (Ba), total.....	49.9795	41.6004	161.2726	88.0052
Beryllium (Be), total.....	2.2457 U	2.2868	2.4381 U	2.5522 U
Calcium (Ca), total.....	3293.5530	3264.9297	6215.0596	5617.0957
Cadmium (Cd), total.....	2.6334	2.6319	1.6275	2.0188
Cobalt (Co), total.....	14.6682	13.2391 U	14.1150 U	15.7176
Chromium (Cr), total.....	10.3915	12.2536	12.4206	10.0735
Cesium (Cs), total.....				
Copper (Cu), total.....	15.1162	12.1564	19.0579	20.9387
Iron (Fe), total.....	7829.1099	9218.3408	14827.9043	3340.6895
Mercury (Hg), total.....	0.2 U	0.2 U	0.2 U	0.2 U
Potassium (K), total.....	1100	1400	1400	1000 U
Lithium (Li), total.....	100 U	100 U	100 U	100 U
Magnesium (Mg), total.....	2059.5579	2442.7959	2975.5195	2524.3508
Manganese (Mn), total.....	66.9566	128.6426	225.6887	130.8207
Molybdenum(Mo), total.....	13.0016 U	13.2391 U	14.1150 U	14.7761 U
Sodium (Na), total.....	1241.0575 U	1263.7362 U	1347.3451 U	1410.4478 U
Nickel (Ni), total.....	23.8633	22.2658 U	23.7389 U	24.8507 U
Lead (Pb), total.....	18	17	20	22
Antimony (Sb), total.....	2.4741	6.2440	6.9483	3.5795
Selenium (Se), total.....	0.5 J	0.5 J	1.0 U	1.0 U
Strontium (Sr), total.....	52.5568	48.2116	58.7420	94.0384
Thallium (Tl), total.....	4.8460 U	4.9346 U	5.2611 U	5.5075 U
Vanadium (V), total.....	19.4693	21.6648	30.8899	25.7814
Zinc (Zn), total.....	68.9244	65.6830	61.7086	36.8736

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Client: ROCKWELL (ROCKY FLATS)

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Sample Information

RFW Batch ID:	BH87-881-064	BH87-881-065	BH87-881-067	BH87-881-068
Customer ID:	SP1387038R	SP138706DH	SP138709DH	SP138711DH
Matrix:	Soil	Soil	Soil	Soil
Units:	MG/KG	MG/KG	MG/KG	MG/KG

Metals

Silver (Ag), total.....	5.0201 U	4.6481 U	4.8013 U	4.4798 U
Aluminum (Al), total.....	9162.5557	7966.8970	769.9017	2823.6458
Arsenic (As), total.....	2.9	10	5.3	7.3
Barium (Ba), total.....	71.4716	27.9978	6.3175 U	15.3381
Beryllium (Be), total.....	2.5101 U	2.3240 U	2.4006 U	2.2399 U
Calcium (Ca), total.....	4818.6172	3777.7046	473.8121 U	992.9117
Cadmium (Cd), total.....	2.4268	2.5738	1.9915	2.7270
Cobalt (Co), total.....	14.5319 U	13.4549 U	13.8985 U	12.9677 U
Chromium (Cr), total.....	9.6470	6.1159 U	6.3175 U	5.8944 U
Cesium (Cs), total.....				
Copper (Cu), total.....	28.0112	16.1715	3.9800 U	7.0559
Iron (Fe), total.....	5255.9102	14200.1455	594.1016	3210.3711
Mercury (Hg), total.....	0.2 U	0.2 U	0.2 U	0.2 U
Potassium (K), total.....	1000 U	1000 U	1100	1300
Lithium (Li), total.....	100 U	100 U	100 U	100 U
Magnesium (Mg), total.....	2348.3801	2367.0325	259.3686	767.7449
Manganese (Mn), total.....	59.6647	79.1560	3.8863	17.9586
Molybdenum(Mo), total.....	14.5319 U	13.4549 U	13.8985 U	12.9677 U
Sodium (Na), total.....	1387.1338 U	1284.3347 U	1326.6738 U	1237.8268 U
Nickel (Ni), total.....	24.4400 U	22.6288 U	23.3747 U	21.8093 U
Lead (Pb), total.....	21	28	21	26
Antimony (Sb), total.....	3.6120	5.4798	6.5369	4.2649
Selenium (Se), total.....	1.0 U	1.0 U	1.0 U	1.0 U
Strontium (Sr), total.....	97.2528	58.2842	12.6350 U	24.6390
Thallium (Tl), total.....	5.4164 U	5.0150 U	5.1803 U	4.8334 U
Vanadium (V), total.....	25.3378	21.2234	15.1620 U	14.1466 U
Zinc (Zn), total.....	63.1754	125.9281	12.6350 U	24.7254

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Sample Information

RFW Batch ID:	BH87-881-066	BH87-881-094	BH87-881-102	BH87-881-105
Customer ID:	SP138760UP	SP148702CT	SP148704BR	SP1587008D
Matrix:	Soil	Soil	Soil	Soil
Units:	MG/KG	MG/KG	MG/KG	MG/KG

Metals

Silver (Ag), total.....	4.7293 U	4.8390 U	4.7774 U	5.0208 U
Aluminum (Al), total.....	1886.7778	10810.0566	8826.3164	20545.6660
Arsenic (As), total.....	8.3	3.6	4.0	10
Barium (Ba), total.....	11.5060	53.9755	36.2171	242.3069
Beryllium (Be), total.....	2.3646 U	2.4195 U	2.6399	2.5104 U
Calcium (Ca), total.....	1112.3563	5514.6147	4868.7192	4789.0874
Cadmium (Cd), total.....	2.3818	2.7228	2.3047	1.9617
Cobalt (Co), total.....	13.6900 U	14.0075 U	13.8292 U	14.5338 U
Chromium (Cr), total.....	6.2227 U	10.2045	16.9453	21.4551
Cesium (Cs), total.....				
Copper (Cu), total.....	5.4085	19.5319	20.7643	22.9607
Iron (Fe), total.....	2795.7263	6246.3066	8098.8262	29505.4297
Mercury (Hg), total.....	0.2 U	0.2 U	0.2 U	0.2 U
Potassium (K), total.....	1000 U	960 J	1100	1700
Lithium (Li), total.....	100 U	100 U	100 U	100 U
Magnesium (Mg), total.....	606.6347	2385.4993	2072.2571	3264.7339
Manganese (Mn), total.....	24.8044	219.7527	109.8744	152.4157
Molybdenum(Mo), total.....	13.6900 U	14.0075 U	13.8292 U	14.5338 U
Sodium (Na), total.....	1306.7686 U	1337.0787 U	1320.0629 U	1387.3202 U
Nickel (Ni), total.....	23.0240 U	23.5581 U	23.2582 U	40.6855
Lead (Pb), total.....	27	23	22	18
Antimony (Sb), total.....	4.1735	5.5540	5.5000	2.6299
Selenium (Se), total.....	1.0 U	1.0 U	1.0 U	1.0 U
Strontium (Sr), total.....	17.8846	75.9975	64.2366	61.8732
Thallium (Tl), total.....	5.1026 U	5.2210 U	5.1545 U	5.4172 U
Vanadium (V), total.....	14.9345 U	31.9753	24.7603	34.2087
Zinc (Zn), total.....	29.5126	68.3428	34.9346	54.9822

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Sample Information

RFW Batch ID:	BH87-881-106	BH87-881-103	BH87-881-104	BH87-881-112
Customer ID:	SP1587010DH	SP158702DH	SP158708DH	SP158712WT
Matrix:	Soil	Soil	Soil	Soil
Units:	MG/KG	MG/KG	MG/KG	MG/KG

Metals

Silver (Ag), total.....	4.9086 U	4.4607 U	4.7769 U	4.8023 U
Aluminum (Al), total.....	11604.0596	12673.7354	10158.8730	5477.7783
Arsenic (As), total.....	6.4	8.3	7.0	7.0
Barium (Ba), total.....	178.9242	181.5944	120.7201	61.2414
Beryllium (Be), total.....	2.4543 U	2.2303 U	2.3885 U	2.4012 U
Calcium (Ca), total.....	3133.5808	6419.6753	2638.5327	2653.6521
Cadmium (Cd), total.....	2.7760	2.6556	2.3540	2.3505
Cobalt (Co), total.....	14.2091 U	12.9125 U	13.8279 U	13.9015 U
Chromium (Cr), total.....	502.6290	23.9826	8.5370	7.4020
Cesium (Cs), total.....				
Copper (Cu), total.....	28.6358	17.7844	7.1643	10.7071
Iron (Fe), total.....	23469.1582	26992.6172	14665.5303	21362.1152
Mercury (Hg), total.....	0.2 U	0.2 U	0.2 U	0.2 U
Potassium (K), total.....	1100	1300	1100	1000 U
Lithium (Li), total.....	100 U	100	100 U	100 U
Magnesium (Mg), total.....	2077.4043	2454.2354	1716.9120	1409.1851
Manganese (Mn), total.....	501.7424	512.2239	92.8070	105.6572
Molybdenum(Mo), total.....	14.2091 U	12.9125 U	13.8279 U	13.9015 U
Sodium (Na), total.....	1356.3218 U	1232.5581 U	1319.9382 U	1326.9640 U
Nickel (Ni), total.....	542.9685	32.4829	33.3887	23.3798 U
Lead (Pb), total.....	13	8.1	9.5	14
Antimony (Sb), total.....	3.0202	3.2581	2.0742 U	3.0148
Selenium (Se), total.....	1.0 U	1.0 U	1.0 U	1.0 U
Strontium (Sr), total.....	42.9989	56.1214	27.4365	32.9139
Thallium (Tl), total.....	5.2961 U	4.8128 U	5.1540 U	5.1815
Vanadium (V), total.....	23.5280	21.2951	19.8869	21.5089
Zinc (Zn), total.....	45.2158	62.1157	33.9256	46.0462

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Sample Information

RFW Batch ID:	BH87-881-113	BH87-881-114	BH87-881-120	BH87-881-121
Customer ID:	SP158714CT	SP158717BR	SP168702FS	SP168708UC
Matrix:	Soil	Soil	Soil	Soil
Units:	MG/KG	MG/KG	MG/KG	MG/KG

Metals

Silver (Ag), total.....	4.7044 U	4.7061 U	5.0484 U	4.8581 U
Aluminum (Al), total.....	11559.5723	11326.9856	12750.5771	9725.8955
Arsenic (As), total.....	10	5.6	4.8	14
Barium (Ba), total.....	144.4901	260.8080	64.6704	43.9583
Beryllium (Be), total.....	2.3522 U	2.3531 U	103.1250	24.2904 U
Calcium (Ca), total.....	4709.5898	4727.7036	1969.6405	63857.2344
Cadmium (Cd), total.....	2.4669	3.0263	64.6704	43.9583
Cobalt (Co), total.....	13.6180 U	13.6230 U	14.6138 U	14.0628 U
Chromium (Cr), total.....	12.3163	11.1749	20.6728	16.5432
Cesium (Cs), total.....				
Copper (Cu), total.....	22.5689	20.2010	17.3728	4.6193
Iron (Fe), total.....	10313.5098	8544.8037	16362.6660	8943.7676
Mercury (Hg), total.....	0.2 U	0.2 U	0.2 U	0.2 U
Potassium (K), total.....	1600	1400	4400	1100
Lithium (Li), total.....	100 U	100 U	100 U	100 U
Magnesium (Mg), total.....	2866.9333	2801.1902	2345.2297	1989.6312
Manganese (Mn), total.....	75.5285	64.6485	176.7728	97.6456
Molybdenum(Mo), total.....	13.6180 U	13.6230 U	14.6138 U	14.0628 U
Sodium (Na), total.....	1299.9003 U	1300.3767 U	1394.9536 U	1342.3618 U
Nickel (Ni), total.....	22.9030 U	22.9114 U	24.5778 U	23.6511 U
Lead (Pb), total.....	24	23	22	8.2
Antimony (Sb), total.....	5.8248	6.3400	16362.6660	8943.7676
Selenium (Se), total.....	1.0 U	1.0 U	1.0 U	1.0 U
Strontium (Sr), total.....	79.4804	71.5806	13.6890	43.1470
Thallium (Tl), total.....	5.0758	5.0777	12750.5771	9725.8955
Vanadium (V), total.....	32.3801	28.2967	33.3420	15.3413 U
Zinc (Zn), total.....	75.3688	84.9410	103.1250	14.5469

SOLAR POND BOREHOLE SAMPLES
METALS
INORGANICS DATA SUMMARY REPORT

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

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Sample Information

RFW Batch ID:	BH87-881-122	BH87-881-123
Customer ID:	SP168710CT	SP1687118R
Matrix:	Soil	Soil
Units:	MG/KG	MG/KG

Metals

Silver (Ag), total.....	4.5160	U	4.6894	U
Aluminum (Al), total.....	9673.4521		6670.4463	
Arsenic (As), total.....	13		16	
Barium (Ba), total.....	83.1467		345.0614	
Beryllium (Be), total.....	24.1451		50.6642	
Calcium (Ca), total.....	85844.5313		10273.9453	
Cadmium (Cd), total.....	83.1467		345.0614	
Cobalt (Co), total.....	13.0726	U	15.5847	
Chromium (Cr), total.....	17.8019		16.9030	
Cesium (Cs), total.....				
Copper (Cu), total.....	10.6346		22.3789	
Iron (Fe), total.....	10297.3320		10681.1309	
Mercury (Hg), total.....	0.2	U	0.2	U
Potassium (K), total.....	1200		920	J
Lithium (Li), total.....	100	U	100	U
Magnesium (Mg), total.....	2199.8521		1571.4116	
Manganese (Mn), total.....	169.8198		1257.9821	
Molybdenum(Mo), total.....	13.0726	U	13.5745	U
Sodium (Na), total.....	1247.8416	U	1295.7446	U
Nickel (Ni), total.....	21.9858	U	22.8298	U
Lead (Pb), total.....	21		20	
Antimony (Sb), total.....	10297.3320		10681.1309	
Selenium (Se), total.....	1.0	U	1.0	U
Strontium (Sr), total.....	72.3377		36.2240	
Thallium (Tl), total.....	9673.4521		6670.4463	
Vanadium (V), total.....	22.4850		16.0195	
Zinc (Zn), total.....	24.1451		50.6642	

WESTON ANALYTICS: Metals

May 26, 1988

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List: Customer ID's: All

RFW Batch ID	Customer ID	Laboratory ID
8608-052-027	C188608860	
8608-052-030	C188608861	
8608-056-035	C188608862	
8609-022-020	C208609860	35
8609-022-023	C208609861	
8609-022-026	C208609862	
8609-022-032	C228609861	
8609-022-035	C228609862	
8609-022-008	C258608860	
8609-022-002	C258608861	02
8609-022-005	C258608862	05
8609-022-011	C278609860	11
8609-022-014	C278609861	14
8609-022-017	C278609862	17

SOLAR POND CORE SAMPLES
METALS
INORGANICS DATA SUMMARY REPORT

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

Page: 1

Sample Information

RFW Batch ID:	8608-052-027	8608-052-030	8608-056-035	8609-022-020
Customer ID:	C188608860	C188608861	C188608862	C208609860
Matrix:	Soil	Soil	Soil	Soil
Units:	MG/KG	MG/KG	MG/KG	MG/KG

Metals

Silver (Ag), total.....	1.2 U	1.2 U	1.1 U	2.2 U
Aluminum (Al), total.....	25000	11700	9440	10600
Arsenic (As), total.....	1.1	0.8	0.8	0.80
Barium (Ba), total.....	210	42	33	70
Beryllium (Be), total.....	1.7	1.2	1.1	1.1 U
Calcium (Ca), total.....	8000	7160	19200	10400
Cadmium (Cd), total.....	0.6 U	0.6 U	0.6 U	1.1 U
Cobalt (Co), total.....	5.8 U	6 U	34	11 U
Chromium (Cr), total.....	24	12	16	8.0
Cesium (Cs), total.....	29	30	29 U	22 U
Copper (Cu), total.....	2.1	1.0	3.0	14
Iron (Fe), total.....	22000	7100	11500	12400
Mercury (Hg), total.....	0.12 U	0.12 U	0.14	0.98
Potassium (K), total.....	3270	1280	2920	1720
Lithium (Li), total.....				
Magnesium (Mg), total.....	6730	2650	4920	2000
Manganese (Mn), total.....	330	6.8	120	160
Molybdenum(Mo), total.....	12 U	12 U	11 U	33 U
Sodium (Na), total.....	58 U	60 U	57 U	160
Nickel (Ni), total.....	7.1	4.8 U	22	42
Lead (Pb), total.....	12	17	19	7.8
Antimony (Sb), total.....	0.6 U	0.6 U	0.6 U	1.1 U
Selenium (Se), total.....	0.05 U	0.08	0.04 U	0.31
Strontium (Sr), total.....	57	53	130	39
Thallium (Tl), total.....	0.12 U	0.12 U	0.11 U	2.2 U
Vanadium (V), total.....	33	15	25	16
Zinc (Zn), total.....	70	62	93	51

SOLAR POND CORE SAMPLES
METALS
INORGANICS DATA SUMMARY REPORT

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

Page: 2

Sample Information

RFW Batch ID:	8609-022-023	8609-022-026	8609-022-032	8609-022-035
Customer ID:	C208609861	C208609862	C228609861	C228609862
Matrix:	Soil	Soil	Soil	Soil
Units:	MG/KG	MG/KG	MG/KG	MG/KG

Metals

Silver (Ag), total.....	2.4 U	2.4 U	2.4 U	2.5 U
Aluminum (Al), total.....	6500	15000	11900	11900
Arsenic (As), total.....	0.99	0.92	0.57	0.40
Barium (Ba), total.....	29	57	75	140
Beryllium (Be), total.....	1.2 U	1.2 U	1.2 U	1.2 U
Calcium (Ca), total.....	1620	9160	6500	5950
Cadmium (Cd), total.....	1.2 U	1.2 U	1.2 U	1.2 U
Cobalt (Co), total.....	12 U	12 U	12 U	12 U
Chromium (Cr), total.....	5.9	11	2.4 U	13
Cesium (Cs), total.....	24 U	24 U	24 U	25
Copper (Cu), total.....	4.7 U	15	11	10
Iron (Fe), total.....	8520	7590	13000	10600
Mercury (Hg), total.....	0.12 U	0.20	0.12 U	0.51
Potassium (K), total.....	1020	1740	2000	2130
Lithium (Li), total.....				
Magnesium (Mg), total.....	890	2840	2860	2910
Manganese (Mn), total.....	64	29	160	160
Molybdenum(Mo), total.....	35 U	36 U	36 U	37 U
Sodium (Na), total.....	160	340	240	1140
Nickel (Ni), total.....	9.4 U	9.6 U	41	9.9 U
Lead (Pb), total.....	7.8	22	4.3	17
Antimony (Sb), total.....	1.2 U	1.2 U	1.2 U	1.2 U
Selenium (Se), total.....	0.40	0.46	0.36	0.37
Strontium (Sr), total.....	22	85	48	67
Thallium (Tl), total.....	2.4 U	2.4 U	2.4 U	2.5 U
Vanadium (V), total.....	14	20	12 U	17
Zinc (Zn), total.....	34	81	59	65

SOLAR POND CORE SAMPLES
METALS
INORGANICS DATA SUMMARY REPORT

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

Page: 3

Sample Information

RFW Batch ID:	8609-022-008	8609-022-002	8609-022-005	8609-022-011
Customer ID:	C258608860	C258608861	C258608862	C278609860
Matrix:	Soil	Soil	Soil	Soil
Units:	MG/KG	MG/KG	MG/KG	MG/KG

Metals

Silver (Ag), total.....	2.2 U	2.4 U	2.4 U	2.2 U
Aluminum (Al), total.....	15000	16200	10300	5200
Arsenic (As), total.....	0.58 U	1.0	0.05 U	0.77
Barium (Ba), total.....	22 U	550	29	27
Beryllium (Be), total.....	1.1 U	1.2 U	1.2 U	1.1 U
Calcium (Ca), total.....	254000	3690	3400	3660
Cadmium (Cd), total.....	1.1 U	1.2 U	1.2 U	1.1 U
Cobalt (Co), total.....	11 U	12 U	12 U	11 U
Chromium (Cr), total.....	18	16	7.5	21
Cesium (Cs), total.....	22 U	24 U	24 U	22 U
Copper (Cu), total.....	4.5 U	23	6.4	4.3
Iron (Fe), total.....	10200	14700	2750	9570
Mercury (Hg), total.....	0.16	0.12 U	0.12 U	0.11 U
Potassium (K), total.....	2190	2170	750	1550
Lithium (Li), total.....				
Magnesium (Mg), total.....	8810	4920	2400	640
Manganese (Mn), total.....	130	190	61	120
Molybdenum(Mo), total.....	34 U	36 U	35 U	32 U
Sodium (Na), total.....	340	230	310	420
Nickel (Ni), total.....	18	19	9.4 U	10
Lead (Pb), total.....	5.6	22	15	0.2 U
Antimony (Sb), total.....	1.1 U	1.2 U	1.2 U	1.1 U
Selenium (Se), total.....	0.34	0.34	0.05 U	0.26
Strontium (Sr), total.....	1030	170	50	17 U
Thallium (Tl), total.....	2.2 U	2.4 U	2.4 U	2.2 U
Vanadium (V), total.....	24	40	12	15
Zinc (Zn), total.....	32	94	14	10

APPENDIX C-2
GROUND-WATER ANALYTICAL DATA
ALLUVIAL WELLS

SOLAR POND CLOSURE CHARACTERIZATION REPORT
ROCKY FLATS PLANT, GOLDEN, COLORADO

1 JULY 1988

APPENDICES

VOLATILE ORGANICS

**SOLAR POND CLOSURE CHARACTERIZATION REPORT
ROCKY FLATS PLANT, GOLDEN, COLORADO**

1 JULY 1988

APPENDICES

List: Customer ID's: All

RFW Batch ID	Customer ID	Laboratory ID
0187-881-072	11-86-05-04-87	
0287-881-035	11-86-06-08-87	
0187-881-063	12-86-04-23-87	
0287-881-037	12-86-06-10-87	
0387-881-066	12-86-08-03-87	
0188-881-038	13-86-03-14-88	
0187-881-121	13-86-04-23-87	
0287-881-083	13-86-06-11-87	
0387-881-067	13-86-08-04-87	
0188-881-023	15-86-03-14-88	
0187-881-060	15-86-04-22-87	
0287-881-040	15-86-06-10-87	
0387-881-069	15-86-08-05-87	
0487-881-052	15-86-12-08-87	
0188-881-025	17-86-03-14-88	
0187-881-061	17-86-04-22-87	
0287-881-042	17-86-06-10-87	
0387-881-070	17-86-08-05-87	
0487-881-053	17-86-12-08-87	
0187-881-033	22-86-03-24-87	
0287-881-070	22-86-06-24-87	
0387-881-103	22-86-08-27-87	
0487-881-076	22-86-12-18-87	
0187-881-022	26-86-03-18-87	
0387-881-105	26-86-08-27-87	
0188-881-029	28-86-03-16-88	
0187-881-028	28-86-03-19-87	
0287-881-067	28-86-06-24-87	
0387-881-108	28-86-09-08-87	
0188-881-039	37-87-03-16-88	
0188-881-040	56-87-03-16-88	
8609-049-046	G118609860	46
8609-030-006	G128609860	06
8609-030-016	G128609862	16
8609-025-006	G158609860	06
8609-025-016	G158609862	16
8609-065-006	G178609860	06
8609-065-016	G178609862	16
8609-051-006	G228609860	06
8609-049-006	G268609860	06
8609-049-015	G288609860	15

SOLAR PONDS ALLUVIAL WELLS
GC/MS DATA SUMMARY
Volatile HAZARDOUS SUBSTANCE LIST COMPOUNDS

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

Page: 1

Sample Information

RFW Batch ID:	0187-881-072	0287-881-035	0187-881-063	0287-881-037
Customer ID:	11-86-05-04-87	11-86-06-08-87	12-86-04-23-87	12-86-06-10-87
Matrix:	Water	Water	Water	Water
Units:	UG/L	UG/L	UG/L	UG/L
Dilution Factor:	1	1	1	1

Surrogate Recovery

Toluene-d8:	%	%	%	%
Bromoform:	%	%	%	%
1,2-Dichloroethane-d4:	%	%	%	%

Analytes

Chloromethane.....	NR	NR	NR	NR
Bromomethane.....	NR	NR	NR	NR
Vinyl Chloride.....	NR	NR	NR	NR
Chloroethane.....	NR	NR	NR	NR
Methylene Chloride.....	NR	NR	NR	NR
Acetone.....	NR	NR	NR	NR
Carbon Disulfide.....	NR	NR	NR	NR
1,1-Dichloroethene.....	4 U	4 U	4 U	4 U
1,1-Dichloroethane.....	NR	NR	NR	NR
Trans-1,2-Dichloroethene.....	4 U	4 U	4 U	4 U
Chloroform.....	4 U	4 U	4 U	4 U
1,2-Dichloroethane.....	4 U	4 U	4 U	4 U
2-Butanone.....	NR	NR	NR	NR
1,1,1-Trichloroethane.....	4 U	4 U	4 U	4 U
Carbon Tetrachloride.....	4 U	4 U	4 U	4 U
Vinyl Acetate.....	NR	NR	NR	NR
Bromodichloromethane.....	NR	NR	NR	NR
1,2-Dichloropropane.....	NR	NR	NR	NR
Trans-1,3-Dichloropropene.....	NR	NR	NR	NR
Trichloroethene.....	4 U	4 U	4 U	4 U
Dibromochloromethane.....	NR	NR	NR	NR
1,1,2-Trichloroethane.....	4 U	4 U	4 U	4 U
Benzene.....	NR	NR	NR	NR
cis-1,3-Dichloropropene.....	NR	NR	NR	NR
2-Chloroethylvinylether.....	NR	NR	NR	NR
Bromoform.....	NR	NR	NR	NR
4-Methyl-2-pentanone.....	NR	NR	NR	NR
2-Hexanone.....	NR	NR	NR	NR
Tetrachloroethene.....	4 U	4 U	4 U	4 U
1,1,2,2-Tetrachloroethane.....	NR	NR	NR	NR
Toluene.....	NR	NR	NR	NR
Chlorobenzene.....	NR	NR	NR	NR
Ethylbenzene.....	NR	NR	NR	NR
Styrene.....	NR	NR	NR	NR
Total Xylenes.....	NR	NR	NR	NR

Modifiers: U=Analyzed, not detected. J=Present below detection limit. B=Present in blank. NS=Not spiked. %=%Percent recovery.

SOLAR PONDS ALLUVIAL WELLS
GC/MS DATA SUMMARY
Volatile HAZARDOUS SUBSTANCE LIST COMPOUNDS

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

Page: 2

Sample Information

RFW Batch ID:	0387-881-066	0188-881-038	0187-881-121	0287-881-083
Customer ID:	12-86-08-03-87	13-86-03-14-88	13-86-04-23-87	13-86-06-11-87
Matrix:	Water	Water	Water	Water
Units:	UG/L	UG/L	UG/L	UG/L
Dilution Factor:	1.0		1	1

Surrogate Recovery

Toluene-d8:	%	106 %	%	%
Bromofluorobenzene:	%	116 %	%	%
1,2-Dichloroethane-d4:	%	94 %	%	%

Analytes

Chloromethane.....	NR	10 U	NR	NR
Bromomethane.....	NR	10 U	NR	NR
Vinyl Chloride.....	NR	10 U	NR	NR
Chloroethane.....	NR	10 U	NR	NR
Methylene Chloride.....	NR	5 U	NR	NR
Acetone.....	NR	10 U	NR	NR
Carbon Disulfide.....	NR	5 U	NR	NR
1,1-Dichloroethene.....	5 U	5 U	4 U	4 U
1,1-Dichloroethane.....	NR	5 U	NR	NR
Trans-1,2-Dichloroethene.....	5 U	5 U	4 U	4 U
Chloroform.....	5 U	5 U	4 U	4 U
1,2-Dichloroethane.....	5 U	5 U	4 U	4 U
2-Butanone.....	NR	10 U	NR	NR
1,1,1-Trichloroethane.....	5 U	5 U	4 U	4 U
Carbon Tetrachloride.....	5 U	5 U	4 U	4 U
Vinyl Acetate.....	NR	10 U	NR	NR
Bromodichloromethane.....	NR	5 U	NR	NR
1,2-Dichloropropene.....	NR	5 U	NR	NR
Trans-1,3-Dichloropropene.....	NR	5 U	NR	NR
Trichloroethene.....	5 U	55	4 U	4 U
Dibromochloromethane.....	NR	5 U	NR	NR
1,1,2-Trichloroethane.....	5 U	5 U	4 U	4 U
Benzene.....	NR	5 U	NR	NR
cis-1,3-Dichloropropene.....	NR	5 U	NR	NR
2-Chloroethylvinylether.....	NR		NR	NR
Bromoform.....	NR	5 U	NR	NR
4-Methyl-2-pentanone.....	NR	10 U	NR	NR
2-Hexanone.....	NR	10 U	NR	NR
Tetrachloroethene.....	5 U	5 U	4 U	4 U
1,1,2,2-Tetrachloroethane.....	NR	5 U	NR	NR
Toluene.....	NR	5 U	NR	NR
Chlorobenzene.....	NR	5 U	NR	NR
Ethylbenzene.....	NR	5 U	NR	NR
Styrene.....	NR	5 U	NR	NR
Total Xylenes.....	NR	5 U	NR	NR

Modifiers: U=Analyzed, not detected. J=Present below detection limit. B=Present in blank. NS=Not spiked. %=Percent recovery.

SOLAR PONDS ALLUVIAL WELLS
GC/MS DATA SUMMARY
Volatile HAZARDOUS SUBSTANCE LIST COMPOUNDS

===== RFW Batch Number: Client: ROCKWELL (ROCKY FLATS) ===== Page: 3

Sample Information

RFW Batch ID:	0387-881-067	0188-881-023	0187-881-060	0287-881-040
Customer ID:	13-86-08-04-87	15-86-03-14-88	15-86-04-22-87	15-86-06-10-87
Matrix:	Water	Water	Water	Water
Units:	UG/L	UG/L	UG/L	UG/L
Dilution Factor:		1.0	1	1

Surrogate Recovery

Toluene-d8:	%	106 %	%	%
Bromofluorobenzene:	%	118 %	%	%
1,2-Dichloroethane-d4:	%	96 %	%	%

Analytes

Chloromethane.....	NR	10 U	NR	NR
Bromomethane.....	NR	10 U	NR	NR
Vinyl Chloride.....	NR	10 U	NR	NR
Chloroethane.....	NR	10 U	NR	NR
Methylene Chloride.....	NR	5 U	NR	NR
Acetone.....	NR	10 U	NR	NR
Carbon Disulfide.....	NR	5 U	NR	NR
1,1-Dichloroethene.....	5 U	5 U	4 U	4 U
1,1-Dichloroethane.....	NR	5 U	NR	NR
Trans-1,2-Dichloroethene.....	5 U	5 U	4 U	4 U
Chloroform.....	125	5 U	4 U	4 U
1,2-Dichloroethane.....	5 U	5 U	4 U	4 U
2-Butanone.....	NR	10 U	NR	NR
1,1,1-Trichloroethane.....	5 U	5 U	4 U	4 U
Carbon Tetrachloride.....	5 U	5 U	4 U	4 U
Vinyl Acetate.....	NR	10 U	NR	NR
Bromodichloromethane.....	NR	5 U	NR	NR
1,2-Dichloropropane.....	NR	5 U	NR	NR
Trans-1,3-Dichloropropene.....	NR	5 U	NR	NR
Trichloroethene.....	5	5 U	4 U	4 U
Dibromochloromethane.....	NR	5 U	NR	NR
1,1,2-Trichloroethane.....	6	5 U	4 U	4 U
Benzene.....	NR	5 U	NR	NR
cis-1,3-Dichloropropene.....	NR	5 U	NR	NR
2-Chloroethylvinylether.....	NR		NR	NR
Bromoform.....	NR	5 U	NR	NR
4-Methyl-2-pentanone.....	NR	10 U	NR	NR
2-Hexanone.....	NR	10 U	NR	NR
Tetrachloroethene.....	5 U	5 U	4 U	4 U
1,1,2,2-Tetrachloroethane.....	NR	5 U	NR	NR
Toluene.....	NR	5 U	NR	NR
Chlorobenzene.....	NR	5 U	NR	NR
Ethylbenzene.....	NR	5 U	NR	NR
Styrene.....	NR	5 U	NR	NR
Total Xylenes.....	NR	5 U	NR	NR

Modifiers: U=Analyzed, not detected. J=Present below detection limit. B=Present in blank. NS=Not spiked. %=Percent recovery.

SOLAR PONDS ALLUVIAL WELLS
GC/MS DATA SUMMARY
Volatile HAZARDOUS SUBSTANCE LIST COMPOUNDS

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

Page: 4

Sample Information

RFW Batch ID:	0387-881-069	0487-881-052	0188-881-025	0187-881-061
Customer ID:	15-86-08-05-87	15-86-12-08-87	17-86-03-14-88	17-86-04-22-87
Matrix:	Water	Water	Water	Water
Units:	UG/L	UG/L	UG/L	UG/L
Dilution Factor:		1.0	1.0	1

Surrogate Recovery

Toluene-d8:	%	108 %	106 %	%
Bromofluorobenzene:	%	86 %	114 %	%
1,2-Dichloroethane-d4:	5 %	92 %	102 %	%

Analytes

Chloromethane.....	NR	10 U	10 U	NR
Bromomethane.....	NR	10 U	10 U	NR
Vinyl Chloride.....	NR	10 U	10 U	NR
Chloroethane.....	NR	10 U	10 U	NR
Methylene Chloride.....	NR	5 U	5 U	NR
Acetone.....	NR	10 U	10 U	NR
Carbon Disulfide.....	NR	5 U	5 U	NR
1,1-Dichloroethene.....	5 U	5 U	5 U	4 U
1,1-Dichloroethane.....	NR	5 U	5 U	NR
Trans-1,2-Dichloroethene.....	5 U	5 U	5 U	4 U
Chloroform.....	5 U	5 U	5 U	4 U
1,2-Dichloroethane.....	5 U	5 U	5 U	4 U
2-Butanone.....	NR	10 U	10 U	NR
1,1,1-Trichloroethane.....	5 U	5 U	5 U	4 U
Carbon Tetrachloride.....	5 U	5 U	5 U	4 U
Vinyl Acetate.....	NR	10 U	10 U	NR
Bromodichloromethane.....	NR	5 U	5 U	NR
1,2-Dichloropropane.....	NR	5 U	5 U	NR
Trans-1,3-Dichloropropene.....	NR	5 U	5 U	NR
Trichloroethene.....	5 U	5 U	5 U	4 U
Dibromochloromethane.....	NR	5 U	5 U	NR
1,1,2-Trichloroethane.....	5 U	5 U	5 U	4 U
Benzene.....	NR	5 U	5 U	NR
cis-1,3-Dichloropropene.....	NR	5 U	5 U	NR
2-Chloroethylvinylether.....	NR	NR		NR
Bromoform.....	NR	5 U	5 U	NR
4-Methyl-2-pentanone.....	NR	10 U	10 U	NR
2-Hexanone.....	NR	10 U	10 U	NR
Tetrachloroethene.....	5 U	5 U	3 J	4 U
1,1,2,2-Tetrachloroethane.....	NR	5 U	5 U	NR
Toluene.....	NR	5 U	5 U	NR
Chlorobenzene.....	NR	5 U	5 U	NR
Ethylbenzene.....	NR	5 U	5 U	NR
Styrene.....	NR	5 U	5 U	NR
Total Xylenes.....	NR	5 U	5 U	NR

Modifiers: U=Analyzed, not detected. J=Present below detection limit. B=Present in blank. NS=Not spiked. %=Percent recovery.

SOLAR PONDS ALLUVIAL WELLS
GC/MS DATA SUMMARY
Volatile HAZARDOUS SUBSTANCE LIST COMPOUNDS

RFW Batch Number: Client: ROCKWELL (ROCKY FLATS) Page: 5

Sample Information

RFW Batch ID:	0287-881-042	0387-881-070	0487-881-053	0187-881-033
Customer ID:	17-86-06-10-87	17-86-08-05-87	17-86-12-08-87	22-86-03-24-87
Matrix:	Water	Water	Water	Water
Units:	UG/L	UG/L	UG/L	UG/L
Dilution Factor:	1		1.0	1

Surrogate Recovery

Toluene-d8:	%	%	106 %	%
Bromofluorobenzene:	%	%	84 %	%
1,2-Dichloroethane-d4:	%	%	92 %	%

Analytes

Chloromethane.....	NR	NR	10 U	NR
Bromomethane.....	NR	NR	10 U	NR
Vinyl Chloride.....	NR	NR	10 U	NR
Chloroethane.....	NR	NR	10 U	NR
Methylene Chloride.....	NR	NR	.5 U	NR
Acetone.....	NR	NR	10 U	NR
Carbon Disulfide.....	NR	NR	5 U	NR
1,1-Dichloroethene.....	4 U	5 U	5 U	4 U
1,1-Dichloroethane.....	NR	NR	5 U	NR
Trans-1,2-Dichloroethene.....	4 U	5 U	5 U	28
Chloroform.....	4 U	5 U	5 U	100
1,2-Dichloroethane.....	4 U	5 U	5 U	4 U
2-Butanone.....	NR	NR	10 U	NR
1,1,1-Trichloroethane.....	4 U	5 U	5 U	1400
Carbon Tetrachloride.....	4 U	5 U	5 U	4 U
Vinyl Acetate.....	NR	NR	10 U	NR
Bromodichloromethane.....	NR	NR	5 U	NR
1,2-Dichloropropane.....	NR	NR	5 U	NR
Trans-1,3-Dichloropropene.....	NR	NR	5 U	NR
Trichloroethene.....	4 U	5 U	5 U	650
Dibromochloromethane.....	NR	NR	5 U	NR
1,1,2-Trichloroethane.....	4 U	5 U	5 U	4 U
Benzene.....	NR	NR	5 U	NR
cis-1,3-Dichloropropene.....	NR	NR	5 U	NR
2-Chloroethylvinylether.....	NR	NR	NR	NR
Bromoform.....	NR	NR	5 U	NR
4-Methyl-2-pentanone.....	NR	NR	10 U	NR
2-Hexanone.....	NR	NR	10 U	NR
Tetrachloroethene.....	4 U	5 U	5 U	4 U
1,1,2,2-Tetrachloroethane.....	NR	NR	5 U	NR
Toluene.....	NR	NR	5 U	NR
Chlorobenzene.....	NR	NR	5 U	NR
Ethylbenzene.....	NR	NR	5 U	NR
Styrene.....	NR	NR	5 U	NR
Total Xylenes.....	NR	NR	5 U	NR

Modifiers: U=Analyzed, not detected. J=Present below detection limit. B=Present in blank. NS=Not spiked. %=Percent recovery.

SOLAR PONDS ALLUVIAL WELLS
GC/MS DATA SUMMARY
Volatile HAZARDOUS SUBSTANCE LIST COMPOUNDS

RFW Batch Number: Client: ROCKWELL (ROCKY FLATS) Page: 6

Sample Information

RFW Batch ID:	0287-881-070	0387-881-103	0487-881-076	0187-881-022
Customer ID:	22-86-06-24-87	22-86-08-27-87	22-86-12-18-87	26-86-03-18-87
Matrix:	Water	Water	Water	Water
Units:	UG/L	UG/L	UG/L	UG/L
Dilution Factor:	1		1.0	1

Surrogate Recovery

Toluene-d8:	%	%	90 %	%
BromoFluorobenzene:	%	%	68 %	%
1,2-Dichloroethane-d4:	%	%	92 %	%

Analytes

Chloromethane.....	NR	NR	10 U	NR
Bromomethane.....	NR	NR	10 U	NR
Vinyl Chloride.....	NR	NR	10 U	NR
Chloroethane.....	NR	NR	10 U	NR
Methylene Chloride.....	NR	NR	10.00	NR
Acetone.....	NR	NR	4.00 J	NR
Carbon Disulfide.....	NR	NR	5 U	NR
1,1-Dichloroethene.....	4 U	5 U	5 U	4 U
1,1-Dichloroethane.....	NR	NR	5 U	NR
Trans-1,2-Dichloroethene.....	4 U	5 U	5 U	4 U
Chloroform.....	36	80	38.00	4 U
1,2-Dichloroethane.....	8000	5 U	5 U	4 U
2-Butanone.....	NR	NR	10 U	NR
1,1,1-Trichloroethane.....	4 U	5 U	5 U	4 U
Carbon Tetrachloride.....	3000	491	161.00	4 U
Vinyl Acetate.....	NR	NR	10 U	NR
Bromodichloromethane.....	NR	NR	5 U	NR
1,2-Dichloropropane.....	NR	NR	5 U	NR
Trans-1,3-Dichloropropene.....	NR	NR	5 U	NR
Trichloroethene.....	6000	490	186.00	8
Dibromochloromethane.....	NR	NR	5 U	NR
1,1,2-Trichloroethane.....	4 U	5 U	5 U	4 U
Benzene.....	NR	NR	5 U	NR
cis-1,3-Dichloropropene.....	NR	NR	5 U	NR
2-Chloroethylvinylether.....	NR	NR	NR	NR
Bromoform.....	NR	NR	5 U	NR
4-Methyl-2-pentanone.....	NR	NR	10 U	NR
2-Hexanone.....	NR	NR	10 U	NR
Tetrachloroethene.....	8	5 U	5 U	4 U
1,1,2,2-Tetrachloroethane.....	NR	NR	5 U	NR
Toluene.....	NR	NR	5 U	NR
Chlorobenzene.....	NR	NR	5 U	NR
Ethylbenzene.....	NR	NR	5 U	NR
Styrene.....	NR	NR	5 U	NR
Total Xylenes.....	NR	NR	5 U	NR

Modifiers: U=Analyzed, not detected. J=Present below detection limit. B=Present in blank. NS=Not spiked. %=Percent recovery.

SOLAR PONDS ALLUVIAL WELLS

GC/MS DATA SUMMARY

Volatile HAZARDOUS SUBSTANCE LIST COMPOUNDS

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

Page: 7

Sample Information

RFW Batch ID:	0387-881-105	0188-881-029	0187-881-028	0287-881-067
Customer ID:	26-86-08-27-87	28-86-03-16-88	28-86-03-19-87	28-86-06-24-87
Matrix:	Water	Water	Water	Water
Units:	UG/L	UG/L	UG/L	UG/L
Dilution Factor:		1.0	1	1

Surrogate Recovery

Toluene-d8:	%	106 %	%	%
Bromofluorobenzene:	%	118 %	%	%
1,2-Dichloroethane-d4:	%	100 %	%	%

Analytes

Chloromethane.....	NR	10 U	NR	NR
Bromomethane.....	NR	10 U	NR	NR
Vinyl Chloride.....	NR	10 U	NR	NR
Chloroethane.....	NR	10 U	NR	NR
Methylene Chloride.....	NR	5 U	NR	NR
Acetone.....	NR	10 U	NR	NR
Carbon Disulfide.....	NR	5 U	NR	NR
1,1-Dichloroethene.....	5 U	5 U	4 U	4 U
1,1-Dichloroethane.....	NR	5 U	NR	NR
Trans-1,2-Dichloroethene.....	5 U	5 U	4 U	4 U
Chloroform.....	5 U	5 U	4 U	4 U
1,2-Dichloroethane.....	5 U	5 U	4 U	4 U
2-Butanone.....	NR	10 U	NR	NR
1,1,1-Trichloroethane.....	5 U	5 U	4 U	4 U
Carbon Tetrachloride.....	5 U	5 U	4 U	4 U
Vinyl Acetate.....	NR	10 U	NR	NR
Bromodichloromethane.....	NR	5 U	NR	NR
1,2-Dichloropropane.....	NR	5 U	NR	NR
Trans-1,3-Dichloropropene.....	NR	5 U	NR	NR
Trichloroethene.....	5 U	5 U	4 U	4
Dibromochloromethane.....	NR	5 U	NR	NR
1,1,2-Trichloroethane.....	5 U	5 U	4 U	4 U
Benzene.....	NR	5 U	NR	NR
cis-1,3-Dichloropropene.....	NR	5 U	NR	NR
2-Chloroethylvinylether.....	NR		NR	NR
Bromoform.....	NR	5 U	NR	NR
4-Methyl-2-pentanone.....	NR	10 U	NR	NR
2-Hexanone.....	NR	10 U	NR	NR
Tetrachloroethene.....	5 U	5 U	4 U	4 U
1,1,2,2-Tetrachloroethane.....	NR	5 U	NR	NR
Toluene.....	NR	5 U	NR	NR
Chlorobenzene.....	NR	5 U	NR	NR
Ethylbenzene.....	NR	5 U	NR	NR
Styrene.....	NR	5 U	NR	NR
Total Xylenes.....	NR	5 U	NR	NR

Modifiers: U=Analyzed, not detected. J=Present below detection limit. B=Present in blank. NS=Not spiked. %=Percent recovery.

SOLAR PONDS ALLUVIAL WELLS
GC/MS DATA SUMMARY
Volatile HAZARDOUS SUBSTANCE LIST COMPOUNDS

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

Page: 8

Sample Information

RFW Batch ID:	0387-881-108	0188-881-039	0188-881-040	8609-049-046
Customer ID:	28-86-09-08-87	37-87-03-16-88	56-87-03-16-88	G118609860
Matrix:	Water	Water	Water	Water
Units:	UG/L	UG/L	UG/L	UG/L
Dilution Factor:	1.0	1.0	1.0	1

Surrogate Recovery

Toluene-d8:	%	104 %	104 %	92 %
Bromoform:	%	120 %	118 %	104 %
1,2-Dichloroethane-d4:	%	98 %	96 %	100 %

Analytes

Chloromethane.....	NR	10 U	10 U	10 U
Bromomethane.....	NR	10 U	10 U	10 U
Vinyl Chloride.....	NR	10 U	10 U	10 U
Chloroethane.....	NR	10 U	10 U	10 U
Methylene Chloride.....	NR	5 U	5 U	5 U
Acetone.....	NR	10 U	10 U	1 BJ
Carbon Disulfide.....	NR	5 U	5 U	5 U
1,1-Dichloroethene.....	5 U	5 U	4 J	5 U
1,1-Dichloroethane.....	NR	5 U	6	5 U
Trans-1,2-Dichloroethene.....	5 U	5 U	5 U	5 U
Chloroform.....	5 U	5 U	6	5 U
1,2-Dichloroethane.....	5 U	5 U	5 U	5 U
2-Butanone.....	NR	10 U	10 U	10 U
1,1,1-Trichloroethane.....	5 U	5 U	29	5 U
Carbon Tetrachloride.....	5 U	5 U	5 U	5 U
Vinyl Acetate.....	NR	10 U	10 U	10 U
Bromodichloromethane.....	NR	5 U	5 U	5 U
1,2-Dichloropropene.....	NR	5 U	5 U	5 U
Trans-1,3-Dichloropropene.....	NR	5 U	5 U	5 U
Trichloroethene.....	5 U	5 U	57	5 U
Dibromochloromethane.....	NR	5 U	5 U	5 U
1,1,2-Trichloroethane.....	5 U	5 U	5 U	5 U
Benzene.....	NR	5 U	5 U	5 U
cis-1,3-Dichloropropene.....	NR	5 U	5 U	5 U
2-Chloroethylvinylether.....	NR			10 U
Bromoform.....	NR	5 U	5 U	5 U
4-Methyl-2-pentanone.....	NR	10 U	10 U	10 U
2-Hexanone.....	NR	10 U	10 U	10 U
Tetrachloroethene.....	5 U	5 U	4 J	5 U
1,1,2,2-Tetrachloroethane.....	NR	5 U	5 U	5 U
Toluene.....	NR	5 U	5 U	5 U
Chlorobenzene.....	NR	5 U	5 U	5 U
Ethylbenzene.....	NR	5 U	5 U	5 U
Styrene.....	NR	5 U	5 U	5 U
Total Xylenes.....	NR	5 U	5 U	5 U

Modifiers: U=Analyzed, not detected. J=Present below detection limit. B=Present in blank. NS=Not spiked. %=Percent recovery.

SOLAR PONDS ALLUVIAL WELLS
GC/MS DATA SUMMARY
Volatile HAZARDOUS SUBSTANCE LIST COMPOUNDS

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

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Sample Information

RFW Batch ID:	8609-030-006	8609-030-016	8609-025-006	8609-025-016
Customer ID:	G128609860	G128609862	G158609860	G158609862
Matrix:	Water	Water	Water	Water
Units:	UG/L	UG/L	UG/L	UG/L
Dilution Factor:	1	1	1	1

Surrogate Recovery

Toluene-d8:	100 %	100 %	96 %	96 %
Bromofluorobenzene:	84 %	82 %	98 %	98 %
1,2-Dichloroethane-d4:	82 %	90 %	88 %	88 %

Analytes

Chloromethane.....	10 U	10 U	10 U	10 U
Bromomethane.....	10 U	10 U	10 U	10 U
Vinyl Chloride.....	10 U	10 U	10 U	10 U
Chloroethane.....	10 U	10 U	10 U	10 U
Methylene Chloride.....	6	170	3 J	2 J
Acetone.....	5 BJ	5 BJ	4 BJ	5 BJ
Carbon Disulfide.....	2 J	1 J	3 J	2 J
1,1-Dichloroethene.....	5 U	5 U	5 U	5 U
1,1-Dichloroethane.....	5 U	5 U	5 U	5 U
Trans-1,2-Dichloroethene.....	5 U	5 U	5 U	5 U
Chloroform.....	5 U	5 U	5 U	5 U
1,2-Dichloroethane.....	5 U	5 U	5 U	5 U
2-Butanone.....	10 U	10 U	10 U	10 U
1,1,1-Trichloroethane.....	5 U	5 U	5 U	5 U
Carbon Tetrachloride.....	5 U	5 U	5 U	5 U
Vinyl Acetate.....	10 U	10 U	10 U	10 U
Bromodichloromethane.....	5 U	5 U	5 U	5 U
1,2-Dichloropropane.....	5 U	5 U	5 U	5 U
Trans-1,3-Dichloropropene.....	5 U	5 U	5 U	5 U
Trichloroethene.....	5 U	5 U	5 U	5 U
Dibromochloromethane.....	5 U	5 U	5 U	5 U
1,1,2-Trichloroethane.....	5 U	5 U	5 U	5 U
Benzene.....	5 U	5 U	5 U	5 U
cis-1,3-Dichloropropene.....	5 U	5 U	5 U	5 U
2-Chloroethylvinylether.....	10 U	10 U	10 U	10 U
Bromoform.....	5 U	5 U	5 U	5 U
4-Methyl-2-pentanone.....	10 U	10 U	10 U	10 U
2-Hexanone.....	10 U	10 U	10 U	10 U
Tetrachloroethene.....	5 U	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane.....	5 U	5 U	5 U	5 U
Toluene.....	5 U	5 U	5 U	5 U
Chlorobenzene.....	5 U	5 U	5 U	5 U
Ethylbenzene.....	5 U	5 U	5 U	5 U
Styrene.....	5 U	5 U	5 U	5 U
Total Xylenes.....	5 U	5 U	5 U	5 U

Modifiers: U=Analyzed, not detected. J=Present below detection limit. B=Present in blank. NS=Not spiked. %=Percent recovery.

SOLAR PONDS ALLUVIAL WELLS
GC/MS DATA SUMMARY
Volatile HAZARDOUS SUBSTANCE LIST COMPOUNDS

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RFW Batch Number: Client: ROCKWELL (ROCKY FLATS) Page: 10

Sample Information

RFW Batch ID:	8609-065-006	8609-065-016	8609-051-006	8609-049-006
Customer ID:	G178609860	G178609862	G228609860	G268609860
Matrix:	Water	Water	Water	Water
Units:	UG/L	UG/L	UG/L	UG/L
Dilution Factor:	1	1	1 (10)	1

Surrogate Recovery

Toluene-d8:	96 %	94 %	98 %	94 %
BromoFluorobenzene:	100 %	100 %	102 %	102 %
1,2-Dichloroethane-d4:	94 %	94 %	90 %	92 %

Analytes

Chloromethane.....	10 U	10 U	10 U	10 U
Bromomethane.....	10 U	10 U	10 U	10 U
Vinyl Chloride.....	10 U	10 U	10 U	10 U
Chloroethane.....	10 U	10 U	10 U	10 U
Methylene Chloride.....	5 U	5 U	5 U	5 U
Acetone.....	10 U	10 U	4 BJ	4 BJ
Carbon Disulfide.....	5 U	5 U	5 U	5 U
1,1-Dichloroethene.....	5 U	5 U	5 U	5 U
1,1-Dichloroethane.....	5 U	5 U	5 U	5 U
Trans-1,2-Dichloroethene.....	5 U	5 U	36	5 U
Chloroform.....	5 U	5 U	147	5 U
1,2-Dichloroethane.....	5 U	5 U	5 U	5 U
2-Butanone.....	5 BJ	10 U	4 BJ	10 U
1,1,1-Trichloroethane.....	5 U	5 U	5 U	5 U
Carbon Tetrachloride.....	5 U	5 U	350	5 U
Vinyl Acetate.....	10 U	10 U	10 U	10 U
Bromodichloromethane.....	5 U	5 U	5 U	5 U
1,2-Dichloropropane.....	5 U	5 U	5 U	5 U
Trans-1,3-Dichloropropene.....	5 U	5 U	5 U	5 U
Trichloroethene.....	2 J	3 J	410	6
Dibromochloromethane.....	5 U	5 U	5 U	5 U
1,1,2-Trichloroethane.....	5 U	5 U	5 U	5 U
Benzene.....	5 U	5 U	5 U	5 U
cis-1,3-Dichloropropene.....	5 U	5 U	5 U	5 U
2-Chloroethylvinylether.....	10 U	10 U	10 U	10 U
Bromoform.....	5 U	5 U	5 U	5 U
4-Methyl-2-pentanone.....	10 U	10 U	10 U	10 U
2-Hexanone.....	10 U	10 U	10 U	10 U
Tetrachloroethene.....	5 U	5 U	2 J	5 U
1,1,2,2-Tetrachloroethane.....	5 U	5 U	5 U	5 U
Toluene.....	5 U	5 U	5 U	5 U
Chlorobenzene.....	5 U	5 U	5 U	5 U
Ethylbenzene.....	5 U	5 U	5 U	5 U
Styrene.....	5 U	5 U	5 U	5 U
Total Xylenes.....	5 U	5 U	5 U	5 U

Modifiers: U=Analyzed, not detected. J=Present below detection limit. B=Present in blank. NS=Not spiked. %=Percent recovery.

SOLAR PONDS ALLUVIAL WELLS
GC/MS DATA SUMMARY
Volatile HAZARDOUS SUBSTANCE LIST COMPOUNDS

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RFW Batch Number: Client: ROCKWELL (ROCKY FLATS)

Page: 11

Sample Information

RFW Batch ID: 8609-049-015
Customer ID: G288609860
Matrix: Water
Units: UG/L
Dilution Factor: 1

Surrogate Recovery

Toluene-d8:	94 %
Bromofluorobenzene:	100 %
1,2-Dichloroethane-d4:	98 %

Analytes

Chloromethane.....	10 U
Bromomethane.....	10 U
Vinyl Chloride.....	10 U
Chloroethane.....	10 U
Methylene Chloride.....	5 U
Acetone.....	5 BJ
Carbon Disulfide.....	5 U
1,1-Dichloroethene.....	5 U
1,1-Dichloroethane.....	5 U
cis-1,2-Dichloroethene.....	5 U
chloroform.....	5 U
2-Dichloroethane.....	5 U
Butanone.....	10 U
,1,1-Trichloroethane.....	5 U
carbon Tetrachloride.....	5 U
/inyl Acetate.....	10 U
Bromodichloromethane.....	5 U
1,2-Dichloropropane.....	5 U
Trans-1,3-Dichloropropene.....	5 U
Trichloroethene.....	5 U
Dibromochloromethane.....	5 U
1,1,2-Trichloroethane.....	5 U
Benzene.....	5 U
cis-1,3-Dichloropropene.....	5 U
2-Chloroethylvinylether.....	10 U
Bromoform.....	5 U
4-Methyl-2-pentanone.....	10 U
2-Hexanone.....	10 U
Tetrachloroethene.....	5 U
1,1,2,2-Tetrachloroethane.....	5 U
Toluene.....	5 U
Chlorobenzene.....	5 U
Ethylbenzene.....	5 U
Styrene.....	5 U
Total Xylenes.....	5 U

Modifiers: U=Analyzed, not detected. J=Present below detection limit. B=Present in blank. NS=Not spiked. %=Percent recovery.

SEMIVOLATILES

**SOLAR POND CLOSURE CHARACTERIZATION REPORT
ROCKY FLATS PLANT, GOLDEN, COLORADO**

1 JULY 1988

APPENDICES

WESTON ANALYTICS: Semivolatiles

June 28, 1988

Page: 1

List: Customer ID's: All

RFW Batch ID	Customer ID	Laboratory ID
8609-040-001	G128609860	
8609-040-002	G128609862	
8609-034-001	G158609860	
8609-034-002	G158609862	
8609-068-002	G178609860	
8609-068-004	G178609862	
8609-057-007	G228609860	
8609-057-008	G228609862	

SOLAR PONDS ALLUVIAL WELLS

GC/MS DATA SUMMARY

Semivolatile HAZARDOUS SUBSTANCE LIST COMPOUNDS

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

Page: 1

Sample Information

RFW Batch ID:	8609-040-001	8609-040-002	8609-034-001	8609-034-002
Customer ID:	G128609860	G128609862	G158609860	G158609862
Matrix:	Water	Water	Water	Water
Units:	UG/L	UG/L	UG/L	UG/L
Dilution Factor:	1	1	1	1

Surrogate Recovery

2-Fluorophenol:	4 %	23 %	9 %	17 %
Phenol-d5:	0 %	0 %	9 %	18 %
2,4,6-Br3-Phenol:	77 %	79 %	4 %	5 %
Nitrobenzene-d5:	60 %	54 %	0 %	0 %
2-Fluorobiphenyl:	96 %	60 %	0 %	0 %
p-Terphenyl-d14:	70 %	62 %	2 %	2 %

Analytes

Phenol.....	10 U	10 U	10 U	10 U
bis(2-Chloroethyl)Ether.....	10 U	10 U	10 U	10 U
2-Chlorophenol.....	10 U	10 U	10 U	10 U
1,3-Dichlorobenzene.....	10 U	10 U	10 U	10 U
1,4-Dichlorobenzene.....	10 U	10 U	10 U	10 U
Benzyl Alcohol.....	10 U	10 U	10 U	10 U
1,2-Dichlorobenzene.....	10 U	10 U	10 U	10 U
2-Methylphenol.....	10 U	10 U	10 U	10 U
bis(2-Chloroisopropyl)Ether.....	10 U	10 U	10 U	10 U
4-Methylphenol.....	10 U	10 U	10 U	10 U
N-Nitroso-di-n-propylamine.....	10 U	10 U	10 U	10 U
Hexachloroethane.....	10 U	10 U	10 U	10 U
Nitrobenzene.....	10 U	10 U	10 U	10 U
Isophorone.....	10 U	10 U	10 U	10 U
2-Nitrophenol.....	10 U	10 U	10 U	10 U
2,4-Dimethylphenol.....	10 U	10 U	10 U	10 U
Benzoic Acid.....	50 U	50 U	50 U	50 U
bis(2-Chloroethoxy)Methane.....	10 U	10 U	10 U	10 U
2,4-Dichlorophenol.....	10 U	10 U	10 U	10 U
1,2,4-Trichlorobenzene.....	10 U	10 U	10 U	10 U
Naphthalene.....	10 U	10 U	10 U	10 U
4-Chloraniline.....	10 U	10 U	10 U	10 U
Hexachlorobutadiene.....	10 U	10 U	10 U	10 U
4-Chloro-3-methylphenol.....	10 U	10 U	10 U	10 U
2-Methylnaphthalene.....	10 U	10 U	10 U	10 U
Hexachlorocyclopentadiene.....	10 U	10 U	10 U	10 U
2,4,6-Trichlorophenol.....	10 U	10 U	10 U	10 U
2,4,5-Trichlorophenol.....	50 U	50 U	50 U	50 U
2-Chloronaphthalene.....	10 U	10 U	10 U	10 U
2-Nitroaniline.....	50 U	50 U	50 U	50 U
Dimethyl Phthalate.....	10 U	10 U	10 U	10 U
Acenaphthylene.....	10 U	10 U	10 U	10 U

Modifiers: U=Analyzed, not detected. J=Present below detection limit. B=Present in blank. NS=Not spiked. %=Percent recovery.

SOLAR PONDS ALLUVIAL WELLS

GC/MS DATA SUMMARY

Semivolatile HAZARDOUS SUBSTANCE LIST COMPOUNDS

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

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Sample Information

RFW Batch ID:	8609-040-001	8609-040-002	8609-034-001	8609-034-002
Customer ID:	G128609860	G128609862	G158609860	G158609862
Matrix:	Water	Water	Water	Water
Units:	UG/L	UG/L	UG/L	UG/L
Dilution Factor:	1	1	1	1

Analytes

3-Nitroaniline.....	50 U	50 U	50 U	50 U
Acenaphthene.....	10 U	10 U	10 U	10 U
2,4-Dinitrophenol.....	50 U	50 U	50 U	50 U
4-Nitrophenol.....	50 U	50 U	50 U	50 U
Dibenzofuran.....	10 U	10 U	10 U	10 U
2,4-Dinitrotoluene.....	10 U	10 U	10 U	10 U
2,6-Dinitrotoluene.....	10 U	10 U	10 U	10 U
Diethylphthalate.....	10 U	10 U	10 U	10 U
4-Chlorophenyl-phenylether.....	10 U	10 U	10 U	10 U
Fluorene.....	10 U	10 U	10 U	10 U
4-Nitroaniline.....	50 U	50 U	50 U	50 U
4,6-Dinitro-2-methylphenol.....	50 U	50 U	50 U	50 U
N-Nitrosodiphenylamine.....	5 JB	4 JB	100 B	4 JB
4-Bromophenyl-phenylether.....	10 U	10 U	10 U	10 U
Hexachlorobenzene.....	10 U	10 U	10 U	10 U
Pentachlorophenol.....	50 U	50 U	50 U	50 U
Phenanthrone.....	10 U	10 U	10 U	10 U
Anthracene.....	10 U	10 U	10 U	10 U
di-n-Butyl Phthalate.....	2 JB	2 JB	4 JB	3 JB
Fluoranthene.....	10 U	10 U	10 U	10 U
Pyrene.....	10 U	10 U	10 U	10 U
Butyl Benzyl Phthalate.....	10 U	10 U	10 U	10 U
3,3'-Dichlorobenzidine.....	20 U	20 U	20 U	20 U
Benzo(a)Anthracene.....	10 U	10 U	10 U	10 U
bis(2-Ethylhexyl)Phthalate.....	16 B	17 B	10 U	10 U
Chrysene.....	10 U	10 U	10 U	10 U
di-n-Octyl Phthalate.....	10 U	10 U	10 U	10 U
Benzo(b)Fluoranthene.....	10 U	10 U	10 U	10 U
Benzo(k)Fluoranthene.....	10 U	10 U	10 U	10 U
Benzo(a)Pyrene.....	10 U	10 U	10 U	10 U
Indeno(1,2,3-cd)Pyrene.....	10 U	10 U	10 U	10 U
Dibenz(a,h)Anthracene.....	10 U	10 U	10 U	10 U
Benzo(g,h,i)Perylene.....	10 U	10 U	10 U	10 U

Modifiers: U=Analyzed, not detected. J=Present below detection limit. B=Present in blank. NS=Not spiked. %=Percent recovery.

SOLAR PONDS ALLUVIAL WELLS
GC/MS DATA SUMMARY
Semivolatile HAZARDOUS SUBSTANCE LIST COMPOUNDS

===== RFW Batch Number: Client: ROCKWELL (ROCKY FLATS) Page: 3 =====

Sample Information

RFW Batch ID:	8609-068-002	8609-068-004	8609-057-007	8609-057-008
Customer ID:	G178609860	G178609862	G228609860	G228609862
Matrix:	Water	Water	Water	Water
Units:	UG/L	UG/L	UG/L	UG/L
Dilution Factor:	1	1	1	1

Surrogate Recovery

2-Fluorophenol:	47 %	29 %	19 %	0 %
Phenol-d5:	27 %	16 %	10 %	0 %
2,4,6-Br ₃ -Phenol:	79 %	52 %	68 %	13 %
Nitrobenzene-d5:	68 %	42 %	56 %	0 %
2-Fluorobiphenyl:	68 %	50 %	80 %	0 %
p-Terphenyl-d14:	70 %	52 %	108 %	14 %

Analytes

Phenol.....	10 U	10 U	10 U	10 U
bis(2-Chloroethyl)Ether.....	10 U	10 U	10 U	10 U
2-Chlorophenol.....	10 U	10 U	10 U	10 U
1,3-Dichlorobenzene.....	10 U	10 U	10 U	10 U
1,4-Dichlorobenzene.....	10 U	10 U	10 U	10 U
Benzyl Alcohol.....	10 U	10 U	10 U	10 U
1,2-Dichlorobenzene.....	10 U	10 U	10 U	10 U
2-Methylphenol.....	10 U	10 U	10 U	10 U
bis(2-Chloroisopropyl)Ether.....	10 U	10 U	10 U	10 U
4-Methylphenol.....	10 U	10 U	10 U	10 U
N-Nitroso-di-n-propylamine.....	10 U	10 U	10 U	10 U
Hexachloroethane.....	10 U	10 U	10 U	10 U
Nitrobenzene.....	10 U	10 U	10 U	10 U
Isophorone.....	10 U	10 U	10 U	10 U
2-Nitrophenol.....	10 U	10 U	10 U	10 U
2,4-Dimethylphenol.....	10 U	10 U	10 U	10 U
Benzoic Acid.....	50 U	50 U	50 U	50 U
bis(2-Chloroethoxy)Methane.....	10 U	10 U	10 U	10 U
2,4-Dichlorophenol.....	10 U	10 U	10 U	10 U
1,2,4-Trichlorobenzene.....	10 U	10 U	10 U	10 U
Naphthalene.....	10 U	10 U	10 U	10 U
4-Chloroaniline.....	10 U	10 U	10 U	10 U
Hexachlorobutadiene.....	10 U	10 U	10 U	10 U
4-Chloro-3-methylphenol.....	10 U	10 U	10 U	10 U
2-Methylnaphthalene.....	10 U	10 U	10 U	10 U
Hexachlorocyclopentadiene.....	10 U	10 U	10 U	10 U
2,4,6-Trichlorophenol.....	10 U	10 U	10 U	10 U
2,4,5-Trichlorophenol.....	50 U	50 U	50 U	50 U
2-Chloronaphthalene.....	10 U	10 U	10 U	10 U
2-Nitroaniline.....	50 U	50 U	50 U	50 U
Dimethyl Phthalate.....	10 U	10 U	10 U	10 U
Acenaphthylene.....	10 U	10 U	10 U	10 U

Modifiers: U=Analyzed, not detected. J=Present below detection limit. B=Present in blank. NS=Not spiked. %=Percent recovery.

SOLAR PONDS ALLUVIAL WELLS

GC/MS DATA SUMMARY

Semivolatile HAZARDOUS SUBSTANCE LIST COMPOUNDS

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

Page: 4

Sample Information

RFW Batch ID:	8609-068-002	8609-068-004	8609-057-007	8609-057-008
Customer ID:	G178609860	G178609862	G228609860	G228609862
Matrix:	Water	Water	Water	Water
Units:	UG/L	UG/L	UG/L	UG/L
Dilution Factor:	1	1	1	1

Analytes

3-Nitroaniline.....	50 U	50 U	50 U	50 U
Acenaphthene.....	10 U	10 U	10 U	10 U
2,4-Dinitrophenol.....	50 U	50 U	50 U	50 U
4-Nitrophenol.....	50 U	50 U	50 U	50 U
Dibenzofuran.....	10 U	10 U	10 U	10 U
2,4-Dinitrotoluene.....	10 U	10 U	10 U	10 U
2,6-Dinitrotoluene.....	10 U	10 U	10 U	10 U
Diethylphthalate.....	10 U	10 U	10 U	10 U
4-Chlorophenyl-phenylether.....	10 U	10 U	10 U	10 U
Fluorene.....	10 U	10 U	10 U	10 U
4-Nitroaniline.....	50 U	50 U	50 U	50 U
4,6-Dinitro-2-methylphenol.....	50 U	50 U	50 U	50 U
N-Nitrosodiphenylamine.....	10 B	10 U	10 U	10 U
4-Bromophenyl-phenylether.....	10 U	10 U	10 U	10 U
Hexachlorobenzene.....	10 U	10 U	10 U	10 U
Pentachlorophenol.....	50 U	50 U	50 U	50 U
Phenanthrene.....	10 U	10 U	10 U	10 U
Anthracene.....	10 U	10 U	10 U	10 U
di-n-Butyl Phthalate.....	10 U	1 J	10 U	10 U
Fluoranthene.....	10 U	10 U	10 U	10 U
Pyrene.....	10 U	10 U	10 U	10 U
Butyl Benzyl Phthalate.....	10 U	10 U	10 U	10 U
3,3'-Dichlorobenzidine.....	20 U	20 U	20 U	20 U
Benzo(a)Anthracene.....	10 U	10 U	10 U	10 U
bis(2-Ethylhexyl)Phthalate.....	10 U	10 U	3 J	2 J
Chrysene.....	10 U	10 U	10 U	10 U
di-n-Octyl Phthalate.....	10 U	10 U	10 U	10 U
Benzo(b)Fluoranthene.....	10 U	10 U	10 U	10 U
Benzo(k)Fluoranthene.....	10 U	10 U	10 U	10 U
Benzo(a)Pyrene.....	10 U	10 U	10 U	10 U
Indeno(1,2,3-cd)Pyrene.....	10 U	10 U	10 U	10 U
Dibenz(a,h)Anthracene.....	10 U	10 U	10 U	10 U
Benzo(g,h,i)Perylene.....	10 U	10 U	10 U	10 U

Modifiers: U=Analyzed, not detected. J=Present below detection limit. B=Present in blank. NS=Not spiked. %=%Percent recovery.

PESTICIDES/PCBs

SOLAR POND CLOSURE CHARACTERIZATION REPORT
ROCKY FLATS PLANT, GOLDEN, COLORADO

1 JULY 1988

APPENDICES

WESTON ANALYTICS: Pesticides/PCB's

June 28, 1988

Page: 1

List: Customer ID's: All

RFW Batch ID	Customer ID	Laboratory ID
8609-040-001	G128609860	
8609-040-002	G128609862	
8609-034-001	G158609860	
8609-034-002	G158609862	
8609-068-002	G178609860	
8609-068-004	G178609862	
8609-057-007	G228609860	
8609-057-008	G228609862	

SOLAR PONDS ALLUVIAL WELLS

PESTICIDES/PCB

CLP LIST

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

Page: 1

Sample Information

RFW Batch ID:	8609-040-001	8609-040-002	8609-034-001	8609-034-002
Customer ID:	G128609860	G128609862	G158609860	G158609862
Matrix:	Water	Water	Water	Water
Units:	UG/L	UG/L	UG/L	UG/L
Dilution Factor:	1	1	1	1

Surrogate Recovery

Di-n-butylchloroendate:	55 %	59 %	48 %	71 %
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Analytes

Alpha-BHC.....	0.05 U	0.05 U	0.05 U	0.05 U
Beta-BHC.....	0.05 U	0.05 U	0.05 U	0.05 U
Delta-BHC.....	0.05 U	0.05 U	0.05 U	0.05 U
Gamma-BHC (Lindane).....	0.05 U	0.05 U	0.05 U	0.05 U
Heptachlor.....	0.05 U	0.05 U	0.05 U	0.05 U
Aldrin.....	0.05 U	0.05 U	0.05 U	0.05 U
Heptachlor Epoxide.....	0.05 U	0.05 U	0.05 U	0.05 U
Endosulfan I.....	0.05 U	0.05 U	0.05 U	0.05 U
Dieldrin.....	0.1 U	0.1 U	0.1 U	0.1 U
4,4'-DDE.....	0.1 U	0.1 U	0.1 U	0.1 U
Endrin.....	0.1 U	0.1 U	0.1 U	0.1 U
Endosulfan II.....	0.1 U	0.1 U	0.1 U	0.1 U
4,4'-DDD.....	0.1 U	0.1 U	0.1 U	0.1 U
Endosulfan Sulfate.....	0.1 U	0.1 U	0.1 U	0.1 U
4,4'-DDT.....	0.1 U	0.1 U	0.1 U	0.1 U
Methoxychlor.....	0.5 U	0.5 U	0.5 U	0.5 U
Endrin Ketone.....	0.1 U	0.1 U	0.1 U	0.1 U
Chlordane.....	0.5 U	0.5 U	0.5 U	0.5 U
Toxaphene.....	1 U	1 U	1 U	1 U
Aroclor-1016.....	0.5 U	0.5 U	0.5 U	0.5 U
Aroclor-1221.....	0.5 U	0.5 U	0.5 U	0.5 U
Aroclor-1232.....	0.5 U	0.5 U	0.5 U	0.5 U
Aroclor-1242.....	0.5 U	0.5 U	0.5 U	0.5 U
Aroclor-1248.....	0.5 U	0.5 U	0.5 U	0.5 U
Aroclor-1254.....	1 U	1 U	1 U	1 U
Aroclor-1260.....	1 U	1 U	1 U	1 U

SOLAR PONDS ALLUVIAL WELLS
PESTICIDES/PCB
CLP LIST

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RFW Batch Number: Client: ROCKWELL (ROCKY FLATS) Page: 2

Sample Information

RFW Batch ID:	8609-068-002	8609-068-004	8609-057-007	8609-057-008
Customer ID:	G178609860	G178609862	G228609860	G228609862
Matrix:	Water	Water	Water	Water
Units:	UG/L	UG/L	UG/L	UG/L
Dilution Factor:	1	1	1	1

Surrogate Recovery

Di-n-butylchloroendate:	70 %	102 %	86 %	95 %
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Analytes

Alpha-BHC.....	0.05 U	0.05 U	0.05 U	0.05 U
Beta-BHC.....	0.05 U	0.05 U	0.05 U	0.05 U
Delta-BHC.....	0.05 U	0.05 U	0.05 U	0.05 U
Gamma-BHC (Lindane).....	0.05 U	0.05 U	0.05 U	0.05 U
Heptachlor.....	0.05 U	0.05 U	0.05 U	0.05 U
Aldrin.....	0.05 U	0.05 U	0.05 U	0.05 U
Heptachlor Epoxide.....	0.05 U	0.05 U	0.05 U	0.05 U
Endosulfan I.....	0.05 U	0.05 U	0.05 U	0.05 U
Dieldrin.....	0.1 U	0.1 U	0.1 U	0.1 U
4,4'-DDE.....	0.1 U	0.1 U	0.1 U	0.1 U
Endrin.....	0.1 U	0.1 U	0.1 U	0.1 U
Endosulfan II.....	0.1 U	0.1 U	0.1 U	0.1 U
4,4'-DDD.....	0.1 U	0.1 U	0.1 U	0.1 U
Endosulfan Sulfate.....	0.1 U	0.1 U	0.1 U	0.1 U
4,4'-DDT.....	0.1 U	0.1 U	0.1 U	0.1 U
Methoxychlor.....	0.5 U	0.5 U	0.5 U	0.5 U
Endrin Ketone.....	0.1 U	0.1 U	0.1 U	0.1 U
Chlordane.....	0.5 U	0.5 U	0.5 U	0.5 U
Toxaphene.....	1 U	1 U	1 U	1 U
Aroclor-1016.....	0.5 U	0.5 U	0.5 U	0.5 U
Aroclor-1221.....	0.5 U	0.5 U	0.5 U	0.5 U
Aroclor-1232.....	0.5 U	0.5 U	0.5 U	0.5 U
Aroclor-1242.....	0.5 U	0.5 U	0.5 U	0.5 U
Aroclor-1248.....	0.5 U	0.5 U	0.5 U	0.5 U
Aroclor-1254.....	1 U	1 U	1 U	1 U
Aroclor-1260.....	1 U	1 U	1 U	1 U

RADIONUCLIDES

**SOLAR POND CLOSURE CHARACTERIZATION REPORT
ROCKY FLATS PLANT, GOLDEN, COLORADO**

1 JULY 1988

APPENDICES

WESTON ANALYTICS: Radio Chemistry

June 28, 1988

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List: Customer ID's: All

RFW Batch ID	Customer ID	Laboratory ID
0187-881-076	11-86-05-04-87	
0287-881-035	11-86-06-08-87	
0387-881-042	11-86-08-03-87	
0187-881-065	12-86-04-23-87	
0287-881-037	12-86-06-10-87	
0387-881-048	12-86-08-04-87	
0188-881-023	15-86-03-15-88	
0187-881-062	15-86-04-22-87	
0287-881-040	15-86-06-10-87	
0387-881-050	15-86-08-06-87	
0487-881-046	15-86-12-09-87	
0387-881-051	15-86DUP-08-06-87	
0188-881-025	17-86-03-15-88	
0187-881-064	17-86-04-22-87	
0287-881-042	17-86-06-10-87	
0387-881-052	17-86-08-06-87	
0487-881-047	17-86-12-09-87	
0188-881-026	22-86-03-17-88	
0187-881-034	22-86-03-24-87	
0287-881-070	22-86-06-24-87	
0387-881-088	22-86-08-28-87	
0487-881-064	22-86-12-18-87	
0187-881-022	26-86-03-18-87	
0387-881-090	26-86-08-28-87	
0188-881-029	28-86-03-17-88	
0187-881-028	28-86-03-19-87	
0287-881-067	28-86-06-24-87	
1000-000-248	G128609860	22694-4-2
1000-000-250	G128609862	22694-4-4
1000-000-254	G158609860	22671-4-2
1000-000-256	G158609862	22671-4-4
1000-000-258	G178609860	22800-5-2
1000-000-260	G178609862	22800-5-4
1000-000-267	G228609860	22763-5-2
1000-000-269	G228609862	22763-5-4

SOLAR PONDS ALLUVIAL WELLS
RADIOCHEMISTRY
DATA SUMMARY REPORT

===== RFW Batch Number: Client: ROCKWELL (ROCKY FLATS) ===== Page: 1

Sample Information

RFW Batch ID:	0187-881-076	0287-881-035	0387-881-042
Customer ID:	11-86-05-04-87	11-86-06-08-87	11-86-08-03-87
Matrix:	Water	Water	Water

Radio Chemistry

Gross Alpha.....	11 +/- 16	pc/l	16 +/- 3	pci/l	55 +/- 37	pci/l
Gross Beta.....	16 +/- 6	pc/l	46 +/- 17	pci/l	50 +/- 45	pci/l
Uranium 233, 234.....	5.8 +/- 2.0	pc/l	6.0 +/- 1.7	pci/l	-0.2 +/- 1.5	pci/l
Uranium 235.....	0.0 +/- .50	pc/l	0.19 +/- 0.52	pci/l	0.0 +/- 0.5	pci/l
Uranium 238.....	5.2 +/- 1.8	pc/l	6.8 +/- 1.8	pci/l	-0.3 +/- 1.2	pci/l
Strontium 89, 90.....	<0.6 +/-	pc/l	<1.0 +/-	pci/l	<1.0 +/-	pci/l
Plutonium 239, 240.....	NR		0.0 +/- 0.7	pci/l	-0.3 +/- 1.6	pci/l
Americium 241.....	0.0 +/- 2.7	pc/l	0.6 +/- 6.4	pci/l	-0.4 +/- .81	pci/l
Cesium 137.....	NR		NR			
Tritium.....	460 +/-	pc/l	160 +/-	pci/l	<490 +/-	pci/l

Sample Information

RFW Batch ID:	0187-881-065	0287-881-037	0387-881-048
Customer ID:	12-86-04-23-87	12-86-06-10-87	12-86-08-04-87
Matrix:	Water	Water	Water

Radio Chemistry

Gross Alpha.....	75 +/- 19	pc/l	91 +/- 20	pci/l	125 +/- 62	pci/l
Gross Beta.....	18 +/- 30	pc/l	31 +/- 14	pci/l	87 +/- 51	pci/l
Uranium 233, 234.....	25 +/- 5	pc/l	11 +/- 3	pci/l	17.4 +/- 3.6	pci/l
Uranium 235.....	3.4 +/- 1.8	pc/l	0.5 +/- 0.69	pci/l	2.6 +/- 1.2	pci/l
Uranium 238.....	20 +/- 5	pc/l	13 +/- 3	pci/l	15.1 +/- 3.3	pci/l
Strontium 89, 90.....	4.98 +/-	pc/l	2.2 +/-	pci/l	2.8 +/-	pci/l
Plutonium 239, 240.....	0.0 +/- .78	pc/l	0.5 +/- 1.1	pci/l	0.2 +/- 1.5	pci/l
Americium 241.....	0.0 +/- 1.8	pc/l	0.4 +/- 1.5	pci/l	-0.4 +/- 5.0	pci/l
Cesium 137.....	NR		NR			
Tritium.....	130 +/-	pc/l	120 +/-	pci/l	<540 +/-	pci/l

SOLAR PONDS ALLUVIAL WELLS
RADIOCHEMISTRY
DATA SUMMARY REPORT

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

Page: 2

Sample Information

RFW Batch ID:	0188-881-023	0187-881-062	0287-881-040
Customer ID:	15-86-03-15-88	15-86-04-22-87	15-86-06-10-87
Matrix:	Water	Water	Water

Radio Chemistry

Gross Alpha.....	26 +/- 6	pcil/l	147 +/- 8	pcil/l	19 +/- 19	pcil/l
Gross Beta.....	4 +/- 11	pcil/l	198 +/- 5	pcil/l	7 +/- 5	pcil/l
Uranium 233, 234.....	18 +/- 1	pcil/l	24 +/- 4	pcil/l	1.7 +/- 0.9	pcil/l
Uranium 235.....	0.69 +/- 0.14	pcil/l	2.1 +/- 1.0	pcil/l	0.0 +/- 0.32	pcil/l
Uranium 238.....	14 +/- 1	pcil/l	19 +/- 3	pcil/l	0.43 +/- 0.54	pcil/l
Strontium 89, 90.....			1.98 +/-	pcil/l	<1.0 +/-	pcil/l
Plutonium 239, 240.....	0.00 +/- 0.78	pcil/l	0.0 +/- .55	pcil/l	0.0 +/- 0.69	pcil/l
Americium 241.....	0.00 +/- 0.50	pcil/l	0.0 +/- 2.1	pcil/l	0.0 +/- 1.3	pcil/l
Cesium 137.....			NR		NR	
Tritium.....	240 +/- 100	pcil/l	<110 +/-	pcil/l	<110 +/-	pcil/l

Sample Information

RFW Batch ID:	0387-881-050	0487-881-046	0387-881-051
Customer ID:	15-86-08-06-87	15-86-12-09-87	15-86DUP-08-06-87
Matrix:	Water	Water	Water

Radio Chemistry

Gross Alpha.....	51 +/- 54	pcil/l	32 +/- 8	pcil/l	68 +/- 38	pcil/l
Gross Beta.....	73 +/- 51	pcil/l	29 +/- 12	pcil/l	82 +/- 52	pcil/l
Uranium 233, 234.....	16.1 +/- 2.4	pcil/l	17 +/- 2	pcil/l	17.0 +/- 2.8	pcil/l
Uranium 235.....	0.9 +/- 0.5	pcil/l	.99 +/- .28	pcil/l	0.7 +/- 0.6	pcil/l
Uranium 238.....	11.0 +/- 1.9	pcil/l	13 +/- 2	pcil/l	14.1 +/- 2.4	pcil/l
Strontium 89, 90.....	1.4 +/-	pcil/l	1.8 +/-	pcil/l	2.5 +/-	pcil/l
Plutonium 239, 240.....	.32 +/- .46	pcil/l	0.00 +/- .24	pcil/l	.07 +/- .85	pcil/l
Americium 241.....	.05 +/- .74	pcil/l	0.00 +/- .18	pcil/l	NR	
Cesium 137.....						
Tritium.....	<492 +/-	pcil/l	<210 +/-	pcil/l	<492 +/-	pcil/l

SOLAR PONDS ALLUVIAL WELLS
RADIOCHEMISTRY
DATA SUMMARY REPORT

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

Page: 3

Sample Information

RFW Batch ID:	0188-881-025	0187-881-064	0287-881-042
Customer ID:	17-86-03-15-88	17-86-04-22-87	17-86-06-10-87
Matrix:	Water	Water	Water

Radio Chemistry

Gross Alpha.....	28 +/- 12	pci/l	112 +/- 19	pci/l	552 +/- 142	pci/l
Gross Beta.....	25 +/- 13	pci/l	136 +/- 44	pci/l	196 +/- 21	pci/l
Uranium 233, 234.....	28 +/- 2	pci/l	26 +/- 5	pci/l	3.7 +/- 1.2	pci/l
Uranium 235.....	1.2 +/- 0.2	pci/l	1.3 +/- 1.0	pci/l	0.0 +/- 0.3	pci/l
Uranium 238.....	15 +/- 1	pci/l	25 +/- 4	pci/l	2.7 +/- 0.8	pci/l
Strontium 89, 90.....			1.55 +/-	pci/l	3.3 +/-	pci/l
Plutonium 239, 240.....	0.00 +/- 0.40	pci/l	0.0 +/- .97	pci/l	0.6 +/- 1.5	pci/l
Americium 241.....	0.00 +/- 0.42	pci/l	0.0 +/- 1.5	pci/l	0.0 +/- 1.2	pci/l
Cesium 137.....			NR		NR	
Tritium.....	700 +/- 100	pci/l	380 +/-	pci/l	<110 +/-	pci/l

Sample Information

RFW Batch ID:	0387-881-052	0487-881-047	0188-881-026
Customer ID:	17-86-08-06-87	17-86-12-09-87	22-86-03-17-88
Matrix:	Water	Water	Water

Radio Chemistry

Gross Alpha.....	663 +/- 606	pci/l	52 +/- 12	pci/l	8 +/- 6	pci/l
Gross Beta.....	347 +/- 87	pci/l	41 +/- 13	pci/l	8 +/- 11	pci/l
Uranium 233, 234.....	24.8 +/- 4.4	pci/l	23 +/- 3	pci/l	6.3 +/- 0.6	pci/l
Uranium 235.....	0.9 +/- 0.7	pci/l	1.3 +/- 0.4	pci/l	0.21 +/- .010	pci/l
Uranium 238.....	20.9 +/- 4.0	pci/l	21 +/- 3	pci/l	3.0 +/- 0.4	pci/l
Strontium 89, 90.....	2.6 +/-	pci/l	1.4 +/-	pci/l		
Plutonium 239, 240.....	.03 +/- .17	pci/l	0.00 +/- .37	pci/l	0.00 +/- 0.24	pci/l
Americium 241.....	.04 +/- .67	pci/l	0.00 +/- .41	pci/l	0.00 +/- 0.11	pci/l
Cesium 137.....						
Tritium.....	<540 +/-	pci/l	730 +/- 100	pci/l	340 +/- 100	pci/l

SOLAR PONDS ALLUVIAL WELLS
RADIOCHEMISTRY
DATA SUMMARY REPORT

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RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

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Sample Information

RFW Batch ID:	0187-881-034	0287-881-070	0387-881-088
Customer ID:	22-86-03-24-87	22-86-06-24-87	22-86-08-28-87
Matrix:	Water	Water	Water

Radio Chemistry

Gross Alpha.....	42 +/- 31	pCi/l	109 +/- 19	pCi/l	40 +/- 24	pCi/l
Gross Beta.....	14 +/- 0	pCi/l	109 +/- 14	pCi/l	38 +/- 40	pCi/l
Uranium 233, 234.....	9.2 +/- 2.4	pCi/l	9.1 +/- 1.8	pCi/l	5.8 +/- 1.9	pCi/l
Uranium 235.....	0.0 +/- .77	pCi/l	0.04 +/- 0.44	pCi/l	0.6 +/- 0.5	pCi/l
Uranium 238.....	4.3 +/- 1.9	pCi/l	6.0 +/- 1.4	pCi/l	7.5 +/- 2.0	pCi/l
Strontium 89, 90.....	1.85 +/-	pCi/l	<1.0 +/-	pCi/l	5.7 +/-	pCi/l
Plutonium 239, 240.....	4.6 +/- 2.3	pCi/l	0.6 +/- 1.0	pCi/l	.32 +/- .85	pCi/l
Americium 241.....	0.0 +/- 1.8	pCi/l	0.0 +/- 1.5	pCi/l	.04 +/- .18	pCi/l
Cesium 137.....	NR		NR			
Tritium.....	230 +/-	pCi/l	<110 +/-	pCi/l	723 +/- 318	pCi/l

Sample Information

RFW Batch ID:	0487-881-064	0187-881-022	0387-881-090
Customer ID:	22-86-12-18-87	26-86-03-18-87	26-86-08-28-87
Matrix:	Water	Water	Water

Radio Chemistry

Gross Alpha.....	13 +/- 8	pCi/l	60 +/- 23	pCi/l	72 +/- 34	pCi/l
Gross Beta.....	22 +/- 11	pCi/l	14 +/- 10	pCi/l	47 +/- 44	pCi/l
Uranium 233, 234.....	5.6 +/- 0.5	pCi/l	32 +/- 6	pCi/l	34.2 +/- 4.8	pCi/l
Uranium 235.....	.12 +/- .06	pCi/l	4.5 +/- 1.7	pCi/l	1.3 +/- 0.7	pCi/l
Uranium 238.....	2.2 +/- 0.3	pCi/l	3.0 +/- 5.1	pCi/l	31.2 +/- 1.0	pCi/l
Strontium 89, 90.....	<1.0 +/-	pCi/l	<0.6 +/-	pCi/l	<1.0 +/-	pCi/l
Plutonium 239, 240.....	0.00 +/- .16	pCi/l	0.18 +/- 0.95	pCi/l	.07 +/- .58	pCi/l
Americium 241.....	.16 +/- .18	pCi/l	NR		.04 +/- .60	pCi/l
Cesium 137.....			NR			
Tritium.....	260 +/- 80	pCi/l	1300 +/-	pCi/l	1352 +/- 343	pCi/l

SOLAR PONDS ALLUVIAL WELLS
RADIOCHEMISTRY
DATA SUMMARY REPORT

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RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

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Sample Information

RFW Batch ID:	0188-881-029	0187-881-028	0287-881-067
Customer ID:	28-86-03-17-88	28-86-03-19-87	28-86-06-24-87
Matrix:	Water	Water	Water

Radio Chemistry

Gross Alpha.....	860 +/- 150	pCi/l	797 +/- 69	pCi/l	2000 +/- 700	pCi/l
Gross Beta.....	890 +/- 60	pCi/l	368 +/- 72	pCi/l	745 +/- 142	pCi/l
Uranium 233, 234.....	320 +/- 20	pCi/l	211 +/- 25	pCi/l	1000 +/- 300	pCi/l
Uranium 235.....	12 +/- 1	pCi/l	7.7 +/- 2.6	pCi/l	47 +/- 15	pCi/l
Uranium 238.....	220 +/- 20	pCi/l	142 +/- 20	pCi/l	750 +/- 200	pCi/l
Strontium 89, 90.....			6.0 +/-	pCi/l	2.9 +/- 0.6	pCi/l
Plutonium 239, 240.....	0.00 +/- 0.15	pCi/l	0.0 +/- 1.4	pCi/l	0.15 +/- 0.72	pCi/l
Americium 241.....	0.00 +/- 0.49	pCi/l	0.0 +/- 5.4	pCi/l	0.0 +/- 1.2	pCi/l
Cesium 137.....			NR		NR	
Tritium.....	9000 +/- 300	pCi/l	6300 +/-	pCi/l	12000 +/-	pCi/l

Sample Information

RFW Batch ID:	1000-000-248	1000-000-250	1000-000-254
Customer ID:	G128609860	G128609862	G158609860
Matrix:	Water	Water	Water

Radio Chemistry

Gross Alpha.....	82 +/- 28	pCi/l	53 +/- 30	pCi/l	200 +/- 80	pCi/l
Gross Beta.....	86 +/- 12	pCi/l	120 +/- 20	pCi/l	220 +/- 50	pCi/l
Uranium 233, 234.....	8.8 +/- 0.8	pCi/l	11 +/- 1	pCi/l	24 +/- 2	pCi/l
Uranium 235.....	NR		NR		NR	
Uranium 238.....	7.0 +/- 0.7	pCi/l	8.7 +/- 0.9	pCi/l	24 +/- 2	pCi/l
Strontium 89, 90.....	NR		NR		NR	
Plutonium 239, 240.....	-0.05 +/- 0.06	pCi/l	-0.03 +/- 0.08	pCi/l	-0.03 +/- 0.04	pCi/l
Americium 241.....	0.00 +/- 0.03	pCi/l	-0.02 +/- 0.05	pCi/l	0.08 +/- 0.21	pCi/l
Cesium 137.....	NR		NR		NR	
Tritium.....	0.24 +/- 0.22	pCi/ml	0.31 +/- 0.22	pCi/ml	0.28 +/- 0.22	pCi/ml

SOLAR PONDS ALLUVIAL WELLS
RADIOCHEMISTRY
DATA SUMMARY REPORT

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

Page: 6

Sample Information

RFW Batch ID:	1000-000-256	1000-000-258	1000-000-260
Customer ID:	G158609862	G178609860	G178609862
Matrix:	Water	Water	Water

Radio Chemistry

Gross Alpha.....	170 +/- 20	pCi/l	160 +/- 80	pCi/l	63 +/- 49	pCi/l
Gross Beta.....	190 +/- 60	pCi/l	77 +/- 40	pCi/l	50 +/- 37	pCi/l
Uranium 233, 234.....	16 +/- 1	pCi/l	33 +/- 1	pCi/l	31 +/- 1	pCi/l
Uranium 235.....	NR		NR		NR	
Uranium 238.....	13 +/- 1	pCi/l	27 +/- 1	pCi/l	25 +/- 1	pCi/l
Strontium 89, 90.....	NR		NR		NR	
Plutonium 239, 240.....	-0.01 +/- 0.08	pCi/l	0.21 +/- 0.26	pCi/l	0.11 +/- 0.12	pCi/l
Americium 241.....	0.00 +/- 0.13	pCi/l	-0.03 +/- 0.09	pCi/l	0.02 +/- 0.11	pCi/l
Cesium 137.....	NR		NR		NR	
Tritium.....	0.17 +/- 0.22	pCi/ml	0.69 +/- 0.24	pCi/ml	0.77 +/- 0.24	pCi/ml

Sample Information

RFW Batch ID:	1000-000-267	1000-000-269
Customer ID:	G228609860	G228609862
Matrix:	Water	Water

Radio Chemistry

Gross Alpha.....	300 +/- 160	pCi/l	130 +/- 40	pCi/l
Gross Beta.....	240 +/- 60	pCi/l	74 +/- 18	pCi/l
Uranium 233, 234.....	24 +/- 3	pCi/l	9.6 +/- 1.1	pCi/l
Uranium 235.....	NR		NR	
Uranium 238.....	21 +/- 3	pCi/l	6.7 +/- 0.9	pCi/l
Strontium 89, 90.....	NR		NR	
Plutonium 239, 240.....	0.95 +/- 0.39	pCi/l	0.97 +/- 0.20	pCi/l
Americium 241.....	0.12 +/- 0.14	pCi/l	0.08 +/- 0.09	pCi/l
Cesium 137.....	NR		NR	
Tritium.....	0.58 +/- 0.23	pCi/ml	0.66 +/- 0.24	pCi/ml

INORGANICS

SOLAR POND CLOSURE CHARACTERIZATION REPORT
ROCKY FLATS PLANT, GOLDEN, COLORADO

1 JULY 1988

APPENDICES

List: Customer ID's: All

RFW Batch ID	Customer ID	Laboratory ID
0187-881-076	11-86-05-04-87	
0287-881-039	11-86-06-08-87	
0387-881-069	11-86-07-31-87	
0187-881-065	12-86-04-23-87	
0287-881-064	12-86-06-10-87	
0387-881-072	12-86-08-04-87	
0188-881-023	15-86-03-15-88	
0187-881-062	15-86-04-22-87	
0287-881-043	15-86-06-10-87	
0387-881-074	15-86-08-06-87	
0487-881-038	15-86-12-08-87	
0387-881-075	15-86DUP-08-06-87	
0188-881-025	17-86-03-15-88	
0187-881-064	17-86-04-22-87	
0287-881-045	17-86-06-10-87	
0387-881-076	17-86-08-06-87	
0487-881-039	17-86-12-08-87	
0188-881-026	22-86-03-17-88	
0187-881-034	22-86-03-24-87	
0287-881-070	22-86-06-24-87	
0387-881-107	22-86-08-28-87	
0487-881-063	22-86-12-18-87	
0187-881-024	26-86-03-18-87	
0387-881-109	26-86-08-28-87	
0188-881-029	28-86-03-17-88	
0187-881-028	28-86-03-19-87	
0287-881-073	28-86-06-24-87	
0387-881-125	28-86-09-09-87	
8609-030-008	G128609860	
8609-030-018	G128609862	
8609-025-008	G158609860	
8609-025-018	G158609862	
8609-065-009	G178609860	
8609-065-018	G178609862	
8609-051-008	G228609860	
8609-051-023	G228609862	
8609-049-008	G268609860	

SOLAR PONDS ALLUVIAL WELLS
INORGANIC
DATA SUMMARY REPORT

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RFW Batch Number: Client: ROCKWELL (ROCKY FLATS) Page: 1

Sample Information

RFW Batch ID:	0187-881-076	0287-881-039	0387-881-069
Customer ID:	11-86-05-04-87	11-86-06-08-87	11-86-07-31-87
Matrix:	Water	Water	Water

Inorganics

			NR			
CO ₃ ²⁻ as CaCO ₃	297	mg/l	274	mg/l	291	mg/l
HCO ₃ ⁻ as CaCO ₃						
Chloride.....	36.9	mg/l	36.9	mg/l	37.2	mg/l
Sulfate.....	215	mg/l	162	mg/l	170	mg/l
pH.....						
Fluoride.....						
Nitrate-Nitrite-Nitrogen.....	1.21	mg/l	0.89	mg/l	1.30	mg/l
Sulfide.....						
Phosphate.....						
Cyanide, Total.....	1.0	U mg/l	1.0	U mg/l	1	U mg/l
Hexavalent Chromium (Cr+6).....						
Total Dissolved Solids.....	592	mg/l	576	mg/l	580	mg/l
Total Suspended Solids.....						
% Solids.....						

Sample Information

RFW Batch ID:	0187-881-065	0287-881-064	0387-881-072
Customer ID:	12-86-04-23-87	12-86-06-10-87	12-86-08-04-87
Matrix:	Water	Water	Water

Inorganics

			NR			
CO ₃ ²⁻ as CaCO ₃	417	mg/l	398	mg/l	496	mg/l
HCO ₃ ⁻ as CaCO ₃						
Chloride.....	86.0	mg/l	63.6	mg/l	100	mg/l
Sulfate.....	490	mg/l	337	mg/l	630	mg/l
pH.....						
Fluoride.....						
Nitrate-Nitrite-Nitrogen.....	0.50	mg/l	0.20	U mg/l	0.20	U mg/l
Sulfide.....						
Phosphate.....						
Cyanide, Total.....	1.0	U mg/l	1.0	U mg/l	1	U mg/l
Hexavalent Chromium (Cr+6).....						
Total Dissolved Solids.....	1137	mg/l	1046	mg/l	1430	mg/l
Total Suspended Solids.....						
% Solids.....						

SOLAR PONDS ALLUVIAL WELLS
INORGANIC
DATA SUMMARY REPORT

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

Page: 2

Sample Information

RFW Batch ID:	0188-881-023	0187-881-062	0287-881-043
Customer ID:	15-86-03-15-88	15-86-04-22-87	15-86-06-10-87
Matrix:	Water	Water	Water

Inorganics

CO ₃ = as CaCO ₃			NR			
HCO ₃ - as CaCO ₃	241	mg/l	409	mg/l	371	mg/l
Chloride.....	76.3	mg/l	81.0	mg/l	80.2	mg/l
Sulfate.....	125	mg/l	204	mg/l	175	mg/l
pH.....						
Fluoride.....						
Nitrate-Nitrite-Nitrogen.....	44.0	mg/l	28.0	mg/l	120	mg/l
Sulfide.....						
Phosphate.....						
Cyanide, Total.....			1.0 U	mg/l	1.0 U	mg/l
Hexavalent Chromium (Cr+6).....						
Total Dissolved Solids.....	1022	mg/l	1125	mg/l	1153	mg/l
Total Suspended Solids.....						
% Solids.....						

Sample Information

RFW Batch ID:	0387-881-074	0487-881-038	0387-881-075
Customer ID:	15-86-08-06-87	15-86-12-08-87	15-86DUP-08-06-87
Matrix:	Water	Water	Water

Inorganics

CO ₃ = as CaCO ₃			NR			
HCO ₃ - as CaCO ₃	398	mg/l	424	mg/l	398	mg/l
Chloride.....	87.9	mg/l	74.9	mg/l	83.3	mg/l
Sulfate.....	195	mg/l	142	mg/l	202	mg/l
pH.....						
Fluoride.....						
Nitrate-Nitrite-Nitrogen.....	54	mg/l	34.5	mg/l	51	mg/l
Sulfide.....						
Phosphate.....						
Cyanide, Total.....	1 U	mg/l	NR		1 U	mg/l
Hexavalent Chromium (Cr+6).....						
Total Dissolved Solids.....	1117	mg/l	996	mg/l	1148	mg/l
Total Suspended Solids.....						
% Solids.....						

SOLAR PONDS ALLUVIAL WELLS
INORGANIC
DATA SUMMARY REPORT

===== RFW Batch Number: Client: ROCKWELL (ROCKY FLATS) Page: 3 =====

Sample Information

RFW Batch ID:	0188-881-025	0187-881-064	0287-881-045
Customer ID:	17-86-03-15-88	17-86-04-22-87	17-86-06-10-87
Matrix:	Water	Water	Water

Inorganics

CO ₃ = as CaCO ₃				NR		
HCO ₃ - as CaCO ₃	146	mg/l	332	mg/l	333	mg/l
Chloride.....	130	mg/l	97.0	mg/l	105	mg/l
Sulfate.....	240	mg/l	208	mg/l	270	mg/l
pH.....						
Fluoride.....						
Nitrate-Nitrite-Nitrogen.....	540	mg/l	145	mg/l	305	mg/l
Sulfide.....						
Phosphate.....						
Cyanide, Total.....			1.0	U mg/l	1.0	U mg/l
Hexavalent Chromium (Cr+6).....						
Total Dissolved Solids.....	4392	mg/l	1324	mg/l	2796	mg/l
Total Suspended Solids.....						
% Solids.....						

Sample Information

RFW Batch ID:	0387-881-076	0487-881-039	0188-881-026
Customer ID:	17-86-08-06-87	17-86-12-08-87	22-86-03-17-88
Matrix:	Water	Water	Water

Inorganics

CO ₃ = as CaCO ₃				NR		
HCO ₃ - as CaCO ₃	296	mg/l	274	mg/l	170	mg/l
Chloride.....	11.9	mg/l	123	mg/l	43.6	mg/l
Sulfate.....	290	mg/l	282	mg/l	42.0	mg/l
pH.....						
Fluoride.....						
Nitrate-Nitrite-Nitrogen.....	465	mg/l	516	mg/l	2.74	mg/l
Sulfide.....						
Phosphate.....						
Cyanide, Total.....	1	U mg/l	NR			
Hexavalent Chromium (Cr+6).....						
Total Dissolved Solids.....	3929	mg/l	1906	mg/l	477	mg/l
Total Suspended Solids.....						
% Solids.....						

SOLAR PONDS ALLUVIAL WELLS
INORGANIC
DATA SUMMARY REPORT

===== RFW Batch Number: Client: ROCKWELL (ROCKY FLATS) Page: 4 =====

Sample Information

RFW Batch ID:	0187-881-034	0287-881-070	0387-881-107
Customer ID:	22-86-03-24-87	22-86-06-24-87	22-86-08-28-87
Matrix:	Water	Water	Water

Inorganics

CO ₃ ⁼ as CaCO ₃		NR			
HCO ₃ ⁻ as CaCO ₃	231	mg/l	317	mg/l	335 mg/l
Chloride.....	47.0	mg/l	48.1	mg/l	40.4 mg/l
Sulfate.....	81.0	mg/l	60.5	mg/l	59.0 mg/l
pH.....					
Fluoride.....					
Nitrate-Nitrite-Nitrogen.....	6.80	mg/l	2.30	mg/l	1.4 mg/l
Sulfide.....					
Phosphate.....					
Cyanide, Total.....	1.0 U	mg/l	1.0 U	mg/l	1 U mg/l
Hexavalent Chromium (Cr+6).....					
Total Dissolved Solids.....	577	mg/l	477	mg/l	533 mg/l
Total Suspended Solids.....					
% Solids.....					

Sample Information

RFW Batch ID:	0487-881-063	0187-881-024	0387-881-109
Customer ID:	22-86-12-18-87	26-86-03-18-87	26-86-08-28-87
Matrix:	Water	Water	Water

Inorganics

CO ₃ ⁼ as CaCO ₃	NR				
HCO ₃ ⁻ as CaCO ₃	308	mg/l	682	mg/l	650 mg/l
Chloride.....	28.5	mg/l	67.7	mg/l	59.7 mg/l
Sulfate.....	70.0	mg/l	390	mg/l	375 mg/l
pH.....					
Fluoride.....					
Nitrate-Nitrite-Nitrogen.....	1.32	mg/l	88.0	mg/l	79 mg/l
Sulfide.....					
Phosphate.....					
Cyanide, Total.....	NR		1.0 U	mg/l	1 U mg/l
Hexavalent Chromium (Cr+6).....					
Total Dissolved Solids.....	478	mg/l	1814	mg/l	1760 mg/l
Total Suspended Solids.....					
% Solids.....					

SOLAR PONDS ALLUVIAL WELLS
INORGANIC
DATA SUMMARY REPORT

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RFW Batch Number: Client: ROCKWELL (ROCKY FLATS)

Page: 5

Sample Information

RFW Batch ID:	0188-881-029	0187-881-028	0287-881-073
Customer ID:	28-86-03-17-88	28-86-03-19-87	28-86-06-24-87
Matrix:	Water	Water	Water

Inorganics

CO ₃ ²⁻ as CaCO ₃				NR	
HCO ₃ ⁻ as CaCO ₃	314	mg/l	381	mg/l	636 mg/l
Chloride.....	336	mg/l	259	mg/l	40.1 mg/l
Sulfate.....	335	mg/l	290	mg/l	390 mg/l
pH.....					
Fluoride.....					
Nitrate-Nitrite-Nitrogen.....	1670	mg/l	1120	mg/l	2200 mg/l
Sulfide.....					
Phosphate.....					
Cyanide, Total.....			1.0 U	mg/l	1.0 U mg/l
Hexavalent Chromium (Cr+6).....					
Total Dissolved Solids.....	12052	mg/l	9033	mg/l	16776 mg/l
Total Suspended Solids.....					
% Solids.....					

Sample Information

RFW Batch ID:	0387-881-125	8609-030-008	8609-030-018
Customer ID:	28-86-09-09-87	G128609860	G128609862
Matrix:	Water	Water	Water

Inorganics

CO ₃ ²⁻ as CaCO ₃				
HCO ₃ ⁻ as CaCO ₃				
Chloride.....		47 mg/l		47 mg/l
Sulfate.....		240 mg/l		290 mg/l
pH.....				
Fluoride.....				
Nitrate-Nitrite-Nitrogen.....		9.6 mg/l		9.0 mg/l
Sulfide.....				
Phosphate.....				
Cyanide, Total.....	1 U mg/l	0.005 U mg/l	0.005 U mg/l	
Hexavalent Chromium (Cr+6).....		10 U mg/l		10 U mg/l
Total Dissolved Solids.....		720 mg/l		2500 mg/l
Total Suspended Solids.....				
% Solids.....				

SOLAR PONDS ALLUVIAL WELLS
INORGANIC
DATA SUMMARY REPORT

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

Page: 6

Sample Information

RFW Batch ID:	8609-025-008	8609-025-018
Customer ID:	G158609860	G158609862
Matrix:	Water	Water

Inorganics

CO ₃ ²⁻ as CaCO ₃						
HCO ₃ ⁻ as CaCO ₃						
Chloride.....	63	mg/l	65	mg/l	140	mg/l
Sulfate.....	170	mg/l	180	mg/l	330	mg/l
pH.....						
Fluoride.....						
Nitrate-Nitrite-Nitrogen.....	243	mg/l	262	mg/l	2320	mg/l
Sulfide.....						
Phosphate.....						
Cyanide, Total.....	0.040	mg/l	0.005 U	mg/l	0.005 U	mg/l
Hexavalent Chromium (Cr+6).....	10	U mg/l	10	U mg/l	10	U mg/l
Total Dissolved Solids.....	990	mg/l	1000	mg/l	3900	mg/l
Total Suspended Solids.....						
% Solids.....						

Sample Information

RFW Batch ID:	8609-065-018	8609-051-008
Customer ID:	G178609862	G228609860
Matrix:	Water	Water

Inorganics

CO ₃ ²⁻ as CaCO ₃						
HCO ₃ ⁻ as CaCO ₃						
Chloride.....	140	mg/l	37	mg/l	36	mg/l
Sulfate.....	290	mg/l	75	mg/l	69	mg/l
pH.....						
Fluoride.....						
Nitrate-Nitrite-Nitrogen.....	2400	mg/l	22.6	mg/l	23.2	mg/l
Sulfide.....						
Phosphate.....						
Cyanide, Total.....	0.005 U	mg/l	0.005 U	mg/l	0.005 U	mg/l
Hexavalent Chromium (Cr+6).....	10	U mg/l	10	U mg/l	10	U mg/l
Total Dissolved Solids.....	3900	mg/l	750	mg/l	490	mg/l
Total Suspended Solids.....						
% Solids.....						

SOLAR PONDS ALLUVIAL WELLS
INORGANIC
DATA SUMMARY REPORT

***** RFW Batch Number: Client: ROCKWELL (ROCKY FLATS) ***** Page: 7

Sample Information

RFW Batch ID: 8609-049-008
Customer ID: G268609860
Matrix: Water

Inorganics

CO ₃ = as CaCO ₃		
HCO ₃ - as CaCO ₃		
Chloride.....	77	mg/l
Sulfate.....	500	mg/l
pH.....		
Fluoride.....		
Nitrate-Nitrite-Nitrogen.....	300	mg/l
Sulfide.....		
Phosphate.....		
Cyanide, Total.....		
Hexavalent Chromium (Cr+6).....	10 U	mg/l
Total Dissolved Solids.....	1800	mg/l
Total Suspended Solids.....		
% Solids.....		

METALS

SOLAR POND CLOSURE CHARACTERIZATION REPORT
ROCKY FLATS PLANT, GOLDEN, COLORADO

1 JULY 1988

APPENDICES

List: Customer ID's: All

RFW Batch ID	Customer ID	Laboratory ID
0187-881-072	11-86-05-04-87	
0287-881-035	11-86-06-09-87	
0387-881-070	11-86-07-31-87	
0187-881-063	12-86-04-23-87	
0287-881-037	12-86-06-10-87	
0387-881-072	12-86-08-04-87	
0387-881-073	12-86D-08-04-87	
0188-881-023	15-86-03-15-88	
0187-881-060	15-86-04-22-87	
0287-881-040	15-86-06-11-87	
0387-881-075	15-86-08-06-87	
0387-881-076	15-86D-08-06-87	
0188-881-025	17-86-03-15-88	
0187-881-061	17-86-04-22-87	
0287-881-042	17-86-06-11-87	
0387-881-077	17-86-08-06-87	
0487-881-044	17-86-12-09-87	
0188-881-026	22-86-03-17-88	
0187-881-033	22-86-03-24-87	
0287-881-070	22-86-06-25-87	
0387-881-112	22-86-08-28-87	
0487-881-067	22-86-12-18-87	
0387-881-113	22-86D-08-28-87	
0187-881-022	26-86-03-18-87	
0387-881-115	26-86-08-28-87	
0188-881-029	28-86-03-17-88	
0187-881-028	28-86-03-19-87	
0287-881-067	28-86-06-25-87	
0487-881-032	FLDBLK-10-23-87	
8609-049-047	G118609860	
8609-030-007	G128609860	
8609-030-017	G128609862	
8609-025-007	G158609860	
8609-025-017	G158609862	
8609-065-007	G178609860	
8609-065-017	G178609862	
8609-051-007	G228609860	
8609-051-022	G228609862	
8609-049-007	G268609860	

SOLAR PONDS ALLUVIAL WELLS
METALS
INORGANICS DATA SUMMARY REPORT

===== RFW Batch Number: Client: ROCKWELL (ROCKY FLATS) ===== Page: 1

Sample Information

RFW Batch ID:	0187-881-072	0287-881-035	0387-881-070	0187-881-063
Customer ID:	11-86-05-04-87	11-86-06-09-87	11-86-07-31-87	12-86-04-23-87
Matrix:	Water	Water	Water	Water
Units:	MG/L	MG/L	MG/L	MG/L

Metals

Silver (Ag), total.....	0.0076 U	0.0076 U	0.0076 U	0.0076 U
Aluminum (Al), total.....	0.0290 U	0.0290 U	0.0312	0.0290 U
Arsenic (As), total.....	0.01 U	0.01 U	0.005 U	0.01 U
Barium (Ba), total.....	0.0386	0.0845	0.1507	0.0735
Beryllium (Be), total.....	0.005 U	0.005 U	0.005 U	0.005 U
Calcium (Ca), total.....	104.8707	77.6418	108.2151	155.3941
Cadmium (Cd), total.....	0.005 U	0.005 U	0.0008 J	0.005 U
Cobalt (Co), total.....	0.0220 U	0.0220 U	0.0220 U	0.0220 U
Chromium (Cr), total.....	0.0100 U	0.0100 U	0.0100 U	0.0100 U
Cesium (Cs), total.....	0.2 U	0.2 U	0.02 U	0.2 U
Copper (Cu), total.....	0.0083	0.0063 U	0.0063 U	0.0063 U
Iron (Fe), total.....	0.0069 U	0.0306	0.0069 U	0.0069 U
Mercury (Hg), total.....	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Potassium (K), total.....	5.0 U	5.0 U	1.9	5.0 U
Lithium (Li), total.....				
Magnesium (Mg), total.....	31.4300	25.3456	31.8055	52.5089
Manganese (Mn), total.....	0.0156	0.0087	0.0207	0.0278
Molybdenum(Mo), total.....	0.0220 U	0.0220 U	0.0220 U	0.0220 U
Sodium (Na), total.....	60.5109	46.5674	59.8513	162.4168
Nickel (Ni), total.....	0.0935	0.1667	0.1107	0.0370 U
Lead (Pb), total.....	0.005 U	0.005 U	0.005 U	0.005 U
Antimony (Sb), total.....	0.0600 U	0.06 U	0.02 U	0.0600 U
Selenium (Se), total.....	0.011	0.007	0.005	0.0050 U
Strontium (Sr), total.....	0.7436	0.5977	0.7631	1.2073
Thallium (Tl), total.....	0.01 U	0.01 U	0.01 U	0.01 U
Vanadium (V), total.....	0.0240 U	0.0240 U	0.0240 U	0.0240 U
Zinc (Zn), total.....	0.02 U	0.0200 U	0.0228	0.02 U

SOLAR PONDS ALLUVIAL WELLS
METALS
INORGANICS DATA SUMMARY REPORT

RFW Batch Number: Client: ROCKWELL (ROCKY FLATS) Page: 2

Sample Information

RFW Batch ID:	0287-881-037	0387-881-072	0387-881-073	0188-881-023
Customer ID:	12-86-06-10-87	12-86-08-04-87	12-860-08-04-87	15-86-03-15-88
Matrix:	Water	Water	Water	Water
Units:	MG/L	MG/L	MG/L	MG/L

Metals

Silver (Ag), total.....	0.0076 U	0.0076 U	0.0076 U	0.0076 U
Aluminum (Al), total.....	0.0290 U	0.0290 U	0.0290 U	0.0742
Arsenic (As), total.....	0.01 U	0.005 U		0.005 U
Barium (Ba), total.....	0.0595	0.1051	0.1080	0.4361
Beryllium (Be), total.....	0.005 U	0.005 U		0.005 U
Calcium (Ca), total.....	145.4799	204.7637	204.7987	301.1328
Cadmium (Cd), total.....	0.005 U	0.0004 J		0.001
Cobalt (Co), total.....	0.0220 U	0.0220 U	0.0220 U	0.0220 U
Chromium (Cr), total.....	0.0100 U	0.0151	0.0106	0.0218
Cesium (Cs), total.....	0.2 U	0.02 U		0.02 U
Copper (Cu), total.....	0.0063 U	0.0063 U	0.0075	0.0121
Iron (Fe), total.....	0.0069 U	0.0069 U	0.0069 U	0.3684
Mercury (Hg), total.....	0.0002 U	0.0003		0.0002 U
Potassium (K), total.....	5.0 U	2.3		2.1
Lithium (Li), total.....				0.1 U
Magnesium (Mg), total.....	47.7133	63.2990	64.8564	72.3529
Manganese (Mn), total.....	0.0503	0.0570	0.0580	0.0119
Molybdenum(Mo), total.....	0.0220 U	0.0220 U	0.0220 U	0.0220 U
Sodium (Na), total.....	157.5860	223.6566	223.7104	187.2783
Nickel (Ni), total.....	0.0370 U	0.0370 U	0.0370 U	0.0458
Lead (Pb), total.....	0.005 U	0.005 U		0.005 U
Antimony (Sb), total.....	0.06 U	0.02		0.016 J
Selenium (Se), total.....	0.005 U	0.003 J		0.039
Strontium (Sr), total.....	1.0151	1.4462	1.4832	2.3490
Thallium (Tl), total.....	0.01 U	0.01 U		0.01 U
Vanadium (V), total.....	0.0240 U	0.0240 U	0.0240 U	0.0240 U
Zinc (Zn), total.....	0.0230 U	0.0245	0.0259	0.1261

SOLAR PONDS ALLUVIAL WELLS
METALS
INORGANICS DATA SUMMARY REPORT

===== RFW Batch Number: Client: ROCKWELL (ROCKY FLATS) ===== Page: 3

Sample Information

RFW Batch ID:	0187-881-060	0287-881-040	0387-881-075	0387-881-076
Customer ID:	15-86-04-22-87	15-86-06-11-87	15-86-08-06-87	15-86-08-06-87
Matrix:	Water	Water	Water	Water
Units:	MG/L	MG/L	MG/L	MG/L

Metals

Silver (Ag), total.....	0.0076 U	0.0076 U	0.0076 U	0.0076 U
Aluminum (Al), total.....	0.0356	0.0290 U	0.0290 U	0.0290 U
Arsenic (As), total.....	0.01 U	0.01 U	0.005 U	0.005 U
Barium (Ba), total.....	0.2266	0.2386	0.2849	0.2783
Beryllium (Be), total.....	0.005 U	0.005 U	0.005 U	0.005 U
Calcium (Ca), total.....	193.8921	202.2351	193.4264	198.6274
Cadmium (Cd), total.....	0.005 U	0.005 U	0.0005 J	0.001
Cobalt (Co), total.....	0.0220 U	0.0220 U	0.0220 U	0.0220 U
Chromium (Cr), total.....	0.0100 U	0.0100 U	0.0100 U	0.0100 U
Cesium (Cs), total.....	0.2 U	0.2 U	0.02 U	0.02 U
Copper (Cu), total.....	0.0063 U	0.0063 U	0.0083	0.0080
Iron (Fe), total.....	0.0069 U	0.0069 U	0.0069 U	0.0069 U
Mercury (Hg), total.....	0.0002 U	0.0002 U	0.0002 U	0.0003
Potassium (K), total.....	5.0 U	5.0 U	2.6	2.5
Lithium (Li), total.....				
Magnesium (Mg), total.....	46.7915	43.7933	43.1885	44.5754
Manganese (Mn), total.....	0.0168	0.0132	0.0089	0.0076
Molybdenum(Mo), total.....	0.0220 U	0.0220 U	0.0220 U	0.0220 U
Sodium (Na), total.....	126.0598	117.9158	122.0968	125.1801
Nickel (Ni), total.....	0.0370 U	0.0370 U	0.0370 U	0.0370 U
Lead (Pb), total.....	0.005 U	0.005 U	0.005 U	0.005 U
Antimony (Sb), total.....	0.0600 U	0.06 U	0.004 J	0.024
Selenium (Se), total.....	0.0050 U	0.0025	0.022	0.023
Strontium (Sr), total.....	1.4422	1.4210	1.3845	1.4257
Thallium (Tl), total.....	0.01 U	0.01 U	0.01 U	0.01 U
Vanadium (V), total.....	0.0240 U	0.0240 U	0.0240 U	0.0240 U
Zinc (Zn), total.....	0.02 U	0.0580	0.0396	0.0261

SOLAR PONDS ALLUVIAL WELLS
METALS
INORGANICS DATA SUMMARY REPORT

===== RFW Batch Number: Client: ROCKWELL (ROCKY FLATS) Page: 4 =====

Sample Information

RFW Batch ID:	0188-881-025	0187-881-061	0287-881-042	0387-881-077
Customer ID:	17-86-03-15-88	17-86-04-22-87	17-86-06-11-87	17-86-08-06-87
Matrix:	Water	Water	Water	Water
Units:	MG/L	MG/L	MG/L	MG/L

Metals

Silver (Ag), total.....	0.0076 U	0.0076 U	0.0076 U	0.0076 U
Aluminum (Al), total.....	0.0602	0.0290 U	1.1794	0.0310
Arsenic (As), total.....	0.003 J	0.01 U	0.01 U	0.005 U
Barium (Ba), total.....	0.3887	0.1933	0.3333	0.2893
Beryllium (Be), total.....	0.005 U	0.005 U	0.007	0.005 U
Calcium (Ca), total.....	826.6744	391.9108	430.7377	498.0435
Cadmium (Cd), total.....	0.001 U	0.005 U	0.005 U	0.001 U
Cobalt (Co), total.....	0.0220 U	0.0220 U	0.0220 U	0.0220 U
Chromium (Cr), total.....	0.0289	0.0100 U	0.0100 U	0.0100 U
Cesium (Cs), total.....	0.02 U	0.2 U	0.2 U	0.02 U
Copper (Cu), total.....	0.0063 U	0.0063 U	0.0076	0.0063 U
Iron (Fe), total.....	0.1805	0.0069 U	0.1339	0.0069 U
Mercury (Hg), total.....	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Potassium (K), total.....	4.3	5.0 U	5.0 U	5.1
Lithium (Li), total.....	0.27			
Magnesium (Mg), total.....	253.8005	129.1389	131.4248	162.2504
Manganese (Mn), total.....	0.0051 U	0.0051 U	0.4029	0.0051 U
Molybdenum(Mo), total.....	0.0220 U	0.0220 U	0.0220 U	0.0220 U
Sodium (Na), total.....	369.0358	227.9212	219.4704	263.3607
Nickel (Ni), total.....	0.0370 U	0.0370 U	0.0562	0.0370 U
Lead (Pb), total.....	0.005 U	0.005 U	0.009	0.005 U
Antimony (Sb), total.....	0.02 U	0.0600 U	0.06 U	0.02 U
Selenium (Se), total.....	0.29	0.0050 U	0.150	0.18
Strontium (Sr), total.....	7.6571	3.2177	3.6146	4.5343
Thallium (Tl), total.....	0.01 U	0.01 U	0.01 U	0.01 U
Vanadium (V), total.....	0.0240 U	0.0240 U	0.0300	0.0240 U
Zinc (Zn), total.....	0.0476	0.02 U	0.0957	0.0200 U

SOLAR PONDS ALLUVIAL WELLS
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INORGANICS DATA SUMMARY REPORT

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

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Sample Information

RFW Batch ID:	0487-881-044	0188-881-026	0187-881-033	0287-881-070
Customer ID:	17-86-12-09-87	22-86-03-17-88	22-86-03-24-87	22-86-06-25-87
Matrix:	Water	Water	Water	Water
Units:	MG/L	MG/L	MG/L	MG/L

Metals

Silver (Ag), total.....	0.0076 U	0.0076 U	0.0076 U	0.0076 U
Aluminum (Al), total.....	0.0290 U	0.0319	0.1388	0.0330
Arsenic (As), total.....	0.005 U	0.005 U	0.01 U	0.01 U
Barium (Ba), total.....	0.2634	0.0924	0.0419	0.1908
Beryllium (Be), total.....	0.005 U	0.005 U	0.005 U	0.005 U
Calcium (Ca), total.....	574.3088	63.0093	41.9695	53.8322
Cadmium (Cd), total.....	0.001 U	0.001	0.005 U	0.005 U
Cobalt (Co), total.....	0.0220 U	0.0220 U	0.0220 U	0.0220 U
Chromium (Cr), total.....	0.0100 U	0.0100 U	0.0100 U	0.0100 U
Cesium (Cs), total.....	0.02 U	0.02 U	0.2 U	0.2 U
Copper (Cu), total.....	0.0118	0.0063 U	0.0066	0.0063 U
Iron (Fe), total.....	0.0069 U	0.0697	0.0682	0.0153
Mercury (Hg), total.....	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Potassium (K), total.....	4.7	2.2	6.0	8.2
Lithium (Li), total.....	0.01 U	1.3		
Magnesium (Mg), total.....	162.5240	9.0908	6.5882	7.1633
Manganese (Mn), total.....	0.0051 U	0.1930	0.1034	0.0747
Molybdenum(Mo), total.....	0.0220 U	0.0220 U	0.0220 U	0.0220 U
Sodium (Na), total.....	265.8579	87.0659	185.2432	145.6882
Nickel (Ni), total.....	0.0474	0.1695	0.1097	0.1054
Lead (Pb), total.....	0.005 U	0.001 J	0.005 U	0.015
Antimony (Sb), total.....	0.02 U	0.02 U	0.0600 U	0.06 U
Selenium (Se), total.....	0.004 J	0.003 J	0.0050 U	0.005 U
Strontium (Sr), total.....	5.0306	0.3745	0.2594	0.2941
Thallium (Tl), total.....	0.01 U	0.01 U	0.01 U	0.01 U
Vanadium (V), total.....	0.0240 U	0.240 U	0.0240 U	0.0308
Zinc (Zn), total.....	0.0200 U	0.0380	0.02 U	0.0240

SOLAR PONDS ALLUVIAL WELLS
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INORGANICS DATA SUMMARY REPORT

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

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Sample Information

RFW Batch ID:	0387-881-112	0487-881-067	0387-881-113	0187-881-022
Customer ID:	22-86-08-28-87	22-86-12-18-87	22-860-08-28-87	26-86-03-18-87
Matrix:	Water	Water	Water	Water
Units:	MG/L	MG/L	MG/L	MG/L

Metals

Silver (Ag), total.....	0.0076 U	0.0076 U	0.0076 U	0.0076 U
Aluminum (Al), total.....	0.4236	0.0409	0.3777	0.0290 U
Arsenic (As), total.....	0.005 U	0.007		0.40
Barium (Ba), total.....	0.2045	0.1368	0.1972	0.0902
Beryllium (Be), total.....	0.005 U	0.005 U		0.005 U
Calcium (Ca), total.....	50.3961	64.7845	49.3018	82.9436
Cadmium (Cd), total.....	0.0003 J	0.001 U		0.005 U
Cobalt (Co), total.....	0.0220 U	0.0220 U	0.0220 U	0.0220 U
Chromium (Cr), total.....	0.0100 U	0.0127	0.0100 U	0.0100 U
Cesium (Cs), total.....	0.02 U	0.02 U		0.2 U
Copper (Cu), total.....	0.0099	0.0063 U	0.0094	0.0063 U
Iron (Fe), total.....	0.2887	0.1833	0.2776	0.0069 U
Mercury (Hg), total.....	0.0002 U	0.0002 U		0.0002 U
Potassium (K), total.....	10.6	6.7		5.0 U
Lithium (Li), total.....		0.17		
Magnesium (Mg), total.....	9.7533	10.2115	9.6147	109.4108
Manganese (Mn), total.....	0.2297	0.2621	0.2259	0.0092
Molybdenum(Mo), total.....	0.0220 U	0.0220 U	0.0220 U	0.0220 U
Sodium (Na), total.....	129.0079	79.2068	126.8963	368.0944
Nickel (Ni), total.....	0.0938	0.1973	0.1043	0.0370 U
Lead (Pb), total.....	0.005 U	0.002 J		0.005 U
Antimony (Sb), total.....	0.02 U	0.02 U		0.06 U
Selenium (Se), total.....	0.005 U	0.005		0.02
Strontium (Sr), total.....	0.3537	0.4488	0.3502	2.4235
Thallium (Tl), total.....	0.01 U	0.01 U		0.01 U
Vanadium (V), total.....	0.0240 U	0.0240 U	0.0240 U	0.0240 U
Zinc (Zn), total.....	0.0485	0.0200 U	0.0432	0.05

SOLAR PONDS ALLUVIAL WELLS
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INORGANICS DATA SUMMARY REPORT

RFW Batch Number: Client: ROCKWELL (ROCKY FLATS) Page: 7

Sample Information

RFW Batch ID:	0387-881-115	0188-881-029	0187-881-028	0287-881-067
Customer ID:	26-86-08-28-87	28-86-03-17-88	28-86-03-19-87	28-86-06-25-87
Matrix:	Water	Water	Water	Water
Units:	MG/L	MG/L	MG/L	MG/L

Metals

Silver (Ag), total.....	0.0076 U	0.0076 U	0.0076	0.0076 U
Aluminum (Al), total.....	0.0419	0.0290 U	0.0290 U	0.0290 U
Arsenic (As), total.....	0.005 U	0.003 J	0.01 U	0.01 U
Barium (Ba), total.....	0.1191	0.1665	0.1802	0.3422
Beryllium (Be), total.....	0.005 U	0.005 U	0.005 U	0.005 U
Calcium (Ca), total.....	75.8956	479.1007	346.9876	812.6987
Cadmium (Cd), total.....	0.001 U	0.001	0.005 U	0.005 U
Cobalt (Co), total.....	0.0220 U	0.0502	0.0312	0.0428
Chromium (Cr), total.....	0.0100 U	0.0122	0.0100 U	0.0100 U
Cesium (Cs), total.....	0.02 U	0.02 U	0.2 U	0.2 U
Copper (Cu), total.....	0.0117	0.0063 U	0.0063 U	0.0114
Iron (Fe), total.....	0.0069 U	0.0069 U	0.0147	0.0069 U
Mercury (Hg), total.....	0.0002 U	0.0002 U	0.0002 U	0.0003
Potassium (K), total.....	1.4	0.5	260.0	250
Lithium (Li), total.....		1.4		
Magnesium (Mg), total.....	127.7899	151.2661	84.9911	243.2036
Manganese (Mn), total.....	0.0098	1.2420	0.7376	1.7085
Molybdenum(Mo), total.....	0.0220 U	0.0477	0.0533	0.0826
Sodium (Na), total.....	296.0713	1800.9309	1211.5603	2535.8950
Nickel (Ni), total.....	0.0370 U	0.1512	0.0869	0.2854
Lead (Pb), total.....	0.005 U	0.005 U	0.005 U	0.011
Antimony (Sb), total.....	0.02 U	0.02 U	0.0600 U	0.06 U
Selenium (Se), total.....	0.18	0.005	0.0050 U	0.005 U
Strontium (Sr), total.....	2.5126	4.4360	2.7577	6.1852
Thallium (Tl), total.....	0.01 U	0.01 U	0.01 U	0.01 U
Vanadium (V), total.....	0.0240 U	0.0240 U	0.0240 U	0.0240 U
Zinc (Zn), total.....	0.0251	0.0657	0.03	0.0275

SOLAR PONDS ALLUVIAL WELLS
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INORGANICS DATA SUMMARY REPORT

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

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Sample Information

RFW Batch ID:	0487-881-032	8609-049-047	8609-030-007	8609-030-017
Customer ID:	FLDBLK-10-23-87	G118609860	G128609860	G128609862
Matrix:	Water	Water	Water	Water
Units:	MG/L	MG/L	MG/L	MG/L

Metals

Silver (Ag), total.....	0.0076 U	0.010 U	0.010 U	0.010 U
Aluminum (Al), total.....	0.0290 U	8.4	0.100 U	0.100 U
Arsenic (As), total.....	0.005 U		0.002 U	0.002 U
Barium (Ba), total.....	0.0100 U	0.170	0.100 U	0.100 U
Beryllium (Be), total.....	0.002 J	0.005 U	0.005 U	0.005 U
Calcium (Ca), total.....	0.7500 U	77.4	170	160
Cadmium (Cd), total.....	0.001 U	0.005 U	0.005 U	0.005 U
Cobalt (Co), total.....	0.0220 U	0.050 U	0.050 U	0.050 U
Chromium (Cr), total.....	0.0113	0.010 U	0.010 U	0.010 U
Cesium (Cs), total.....	0.02 U	0.100 U	0.100 U	0.100 U
Copper (Cu), total.....	0.0063 U	0.020 U	0.020 U	0.020 U
Iron (Fe), total.....	0.0461	3.59	0.075 U	0.075 U
Mercury (Hg), total.....	0.0002 U		0.0002 U	0.0002 U
Potassium (K), total.....	0.5 U	6.84	1.92	1.81
Lithium (Li), total.....	0.1 U			
Magnesium (Mg), total.....	0.0200 U	24.5	264	9.60
Manganese (Mn), total.....	0.0051 U	0.128	0.020	0.020
Molybdenum(Mo), total.....	0.0220 U	0.100 U	0.190	0.100 U
Sodium (Na), total.....	2.1000 U	112	167	86.3
Nickel (Ni), total.....	0.0370 U	0.040 U	0.040 U	0.048
Lead (Pb), total.....	0.005 U		0.010 U	0.010 U
Antimony (Sb), total.....	0.02 U		0.050 U	0.050 U
Selenium (Se), total.....	0.005 U		0.002 U	0.0061
Strontium (Sr), total.....	0.0200 U	0.590	0.828	0.910
Thallium (Tl), total.....	0.01 U		0.010 U	0.010 U
Vanadium (V), total.....	0.0240 U	0.025 U	0.050 U	0.050 U
Zinc (Zn), total.....	0.0200 U	0.027	0.025	0.094

SOLAR PONDS ALLUVIAL WELLS
METALS
INORGANICS DATA SUMMARY REPORT

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

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Sample Information

RFW Batch ID:	8609-025-007	8609-025-017	8609-065-007	8609-065-017
Customer ID:	G158609860	G158609862	G178609860	G178609862
Matrix:	Water	Water	Water	Water
Units:	MG/L	MG/L	MG/L	MG/L

Metals

Silver (Ag), total.....	0.010 U	0.010 U	0.010 U	0.010 U
Aluminum (Al), total.....	0.100 U	0.100 U	0.100 U	0.100 U
Arsenic (As), total.....	0.002 U	0.002 U	0.002 U	0.002 U
Barium (Ba), total.....	0.120	0.130	0.160	0.170
Beryllium (Be), total.....	0.005 U	0.005 U	0.005	0.016
Calcium (Ca), total.....	324.0	258.0	193.0	193.0
Cadmium (Cd), total.....	0.005 U	0.005 U	0.005 U	0.005 U
Cobalt (Co), total.....	0.065	0.050 U	0.050 U	0.050 U
Chromium (Cr), total.....	0.010 U	0.010 U	0.010 U	0.010 U
Cesium (Cs), total.....	0.100 U	0.100 U	0.150 U	0.150 U
Copper (Cu), total.....	0.020 U	0.020 U	0.020 U	0.020 U
Iron (Fe), total.....	0.075 U	0.075 U	0.075 U	0.075 U
Mercury (Hg), total.....	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Potassium (K), total.....	2.6	2.920	8.80	7.80
Lithium (Li), total.....				
Magnesium (Mg), total.....	61.5	42.0	142.0	137.0
Manganese (Mn), total.....	0.026	0.020	0.010 U	0.010 U
Molybdenum(Mo), total.....	0.100 U	0.190	0.100 U	0.100 U
Sodium (Na), total.....	88.0	81.9	322.0	310.0
Nickel (Ni), total.....	0.040 U	0.040 U	0.040 U	0.040 U
Lead (Pb), total.....	0.010 U	0.010 U	0.010 U	0.010 U
Antimony (Sb), total.....	0.050 U	0.050 U	0.050 U	0.050 U
Selenium (Se), total.....	0.002 U	0.003	0.002 U	0.002 U
Strontium (Sr), total.....	1.70	1.620	3.950	3.780
Thallium (Tl), total.....	0.024	0.024	0.120	0.124
Vanadium (V), total.....	0.050 U	0.050 U	0.025 U	0.025 U
Zinc (Zn), total.....	0.042	0.057	0.005 U	0.005 U

SOLAR PONDS ALLUVIAL WELLS
METALS
INORGANICS DATA SUMMARY REPORT

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

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Sample Information

RFW Batch ID:	8609-051-007	8609-051-022	8609-049-007
Customer ID:	G228609860	G228609862	G268609860
Matrix:	Water	Water	Water
Units:	MG/L	MG/L	MG/L

Metals

Silver (Ag), total.....	0.010	U	0.010 U	0.010 U
Aluminum (Al), total.....	0.100	U	0.100 U	0.100 U
Arsenic (As), total.....	0.002	U	0.002 U	0.002 U
Barium (Ba), total.....	0.100	U	0.100 U	0.150
Beryllium (Be), total.....	0.005	U	0.005 U	0.005 U
Calcium (Ca), total.....	57.0		71.3	97.0
Cadmium (Cd), total.....	0.005	U	0.005 U	0.005 U
Cobalt (Co), total.....	0.050	U	0.050 U	0.050 U
Chromium (Cr), total.....	0.010	U	0.010 U	0.010 U
Cesium (Cs), total.....	0.150	U	0.150 U	0.100 U
Copper (Cu), total.....	0.020	U	0.020 U	0.020 U
Iron (Fe), total.....	0.075	U	0.075 U	0.075 U
Mercury (Hg), total.....	0.00067		0.0024	0.00026
Potassium (K), total.....	4.040		4.480	3.300
Lithium (Li), total.....				
Magnesium (Mg), total.....	9.180		11.4	106.0
Manganese (Mn), total.....	0.015		0.016	0.117
Molybdenum(Mo), total.....	0.100	U	0.100 U	0.100 U
Sodium (Na), total.....	99.7		90.7	338.0
Nickel (Ni), total.....	0.040	U	0.040	0.040 U
Lead (Pb), total.....	0.010	U	0.010 U	0.010 U
Antimony (Sb), total.....	0.062		0.062	0.050 U
Selenium (Se), total.....	0.0076		0.0078	0.002 U
Strontium (Sr), total.....	0.320		0.406	2.130
Thallium (Tl), total.....	0.010	U	0.010 U	0.044
Vanadium (V), total.....	0.025	U	0.025 U	0.025 U
Zinc (Zn), total.....	0.005	U	0.005 U	0.005 U

APPENDIX C-3
GROUND-WATER ANALYTICAL DATA
BEDROCK WELLS

**SOLAR POND CLOSURE CHARACTERIZATION REPORT
ROCKY FLATS PLANT, GOLDEN, COLORADO**

1 JULY 1988

APPENDICES

VOLATILES ORGANICS

**SOLAR POND CLOSURE CHARACTERIZATION REPORT
ROCKY FLATS PLANT, GOLDEN, COLORADO**

1 JULY 1988

APPENDICES

List: Customer ID's: All

RFW Batch ID	Customer ID	Laboratory ID
0188-881-022	14-86-03-14-88	
0187-881-059	14-86-04-16-87	
0287-881-039	14-86-06-10-87	
0387-881-068	14-86-08-05-87	
0487-881-051	14-86-12-08-87	
0187-881-119	14-86-D-4-16-87	
0188-881-024	16-86-03-14-88	
0187-881-062	16-86-04-22-87	
0287-881-041	16-86-06-10-87	
0387-881-073	16-86-08-06-87	
0487-881-073	16-86-12-17-87	
0487-881-099	23-86-01-15-88	
0187-881-111	23-86-03-18-87	
0188-881-037	23-86-03-21-88	
0287-881-089	23-86-06-24-87	
0387-881-121	23-86-09-23-87	
0487-881-100	25-86-01-15-88	
0187-881-021	25-86-03-18-87	
0188-881-033	25-86-03-21-88	
0287-881-066	25-86-06-24-87	
0387-881-104	25-86-08-27-87	
0187-881-026	27-86-03-19-87	
0188-881-034	27-86-03-21-88	
0187-881-056	27-86-04-15-87	
0287-881-071	27-86-06-24-87	
0387-881-119	27-86-09-22-87	
0487-881-069	27-86-12-16-87	
0487-881-101	30-86-01-15-88	
0188-881-032	30-86-03-16-88	
0187-881-030	30-86-03-23-87	
0187-881-055	30-86-04-15-87	
0287-881-078	30-86-06-24-87	
0387-881-123	30-86-09-23-87	
0188-881-035	32-86-03-21-88	
0187-881-031	32-86-03-23-87	
0187-881-054	32-86-04-15-87	
0287-881-073	32-86-06-29-87	
0387-881-120	32-86-09-22-87	
0487-881-070	32-86-12-16-87	
0188-881-027	39-87-03-16-88	
8609-049-026	G148609860	26
8609-049-036	G148609862	36
8609-049-041	G168609860	41
8612-002-061	G238611860	
8611-014-031	G258611860	
8611-014-036	G278611860	
8609-051-016	G308609860	16
8611-014-041	G328611860	

SOLAR POND BEDROCK WELLS
GC/MS DATA SUMMARY
Volatile HAZARDOUS SUBSTANCE LIST COMPOUNDS

===== RFW Batch Number: Client: ROCKWELL (ROCKY FLATS) ===== Page: 1

Sample Information

RFW Batch ID:	0188-881-022	0187-881-059	0287-881-039	0387-881-068
Customer ID:	14-86-03-14-88	14-86-04-16-87	14-86-06-10-87	14-86-08-05-87
Matrix:	Water	Water	Water	Water
Units:	UG/L	UG/L	UG/L	UG/L
Dilution Factor:	1.0	1	1	

Surrogate Recovery

Toluene-d8:	108 %	%	%	%
Bromofluorobenzene:	118 %	%	%	%
1,2-Dichloroethane-d4:	94 %	%	%	%

Analytes

Chloromethane.....	10 U	NR	NR	NR
Bromomethane.....	10 U	NR	NR	NR
Vinyl Chloride.....	10 U	NR	NR	NR
Chloroethane.....	10 U	NR	NR	NR
Methylene Chloride.....	5 U	NR	NR	NR
Acetone.....	5 J	NR	NR	NR
Carbon Disulfide.....	5 U	NR	NR	NR
1,1-Dichloroethene.....	5 U	4 U	4 U	5 U
1,1-Dichloroethane.....	5 U	NR	NR	NR
Trans-1,2-Dichloroethene.....	5 U	4 U	4 U	5 U
Chloroform.....	5 U	4 U	4 U	5 U
1,2-Dichloroethane.....	5 U	4 U	4 U	5 U
2-Butanone.....	10 U	NR	NR	NR
1,1,1-Trichloroethane.....	5 U	4 U	4 U	5 U
Carbon Tetrachloride.....	5 U	4 U	4 U	5 U
Vinyl Acetate.....	10 U	NR	NR	NR
Bromodichloromethane.....	5 U	NR	NR	NR
1,2-Dichloropropane.....	5 U	NR	NR	NR
Trans-1,3-Dichloropropene.....	5 U	NR	NR	NR
Trichloroethene.....	5 U	4 U	4 U	5 U
Dibromochloromethane.....	5 U	NR	NR	NR
1,1,2-Trichloroethane.....	5 U	4 U	4 U	5 U
Benzene.....	5 U	NR	NR	NR
cis-1,3-Dichloropropene.....	5 U	NR	NR	NR
2-Chloroethylvinylether.....		NR	NR	NR
Bromoform.....	5 U	NR	NR	NR
4-Methyl-2-pentanone.....	10 U	NR	NR	NR
2-Hexanone.....	10 U	NR	NR	NR
Tetrachloroethene.....	5 U	4 U	4 U	5 U
1,1,2,2-Tetrachloroethane.....	5 U	NR	NR	NR
Toluene.....	5 U	NR	NR	NR
Chlorobenzene.....	5 U	NR	NR	NR
Ethylbenzene.....	5 U	NR	NR	NR
Styrene.....	5 U	NR	NR	NR
Total Xylenes.....	5 U	NR	NR	NR

Modifiers: U=Analyzed, not detected. J=Present below detection limit. B=Present in blank. NS=Not spiked. %=%Percent recovery.

SOLAR POND BEDROCK WELLS
GC/MS DATA SUMMARY
Volatile HAZARDOUS SUBSTANCE LIST COMPOUNDS

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RFW Batch Number: Client: ROCKWELL (ROCKY FLATS) Page: 2

Sample Information

RFW Batch ID:	0487-881-051	0187-881-119	0188-881-024	0187-881-062
Customer ID:	14-86-12-08-87	14-86-D-4-16-87	16-86-03-14-88	16-86-04-22-87
Matrix:	Water	Water	Water	Water
Units:	UG/L	UG/L	UG/L	UG/L
Dilution Factor:	1.0	1	1.0	1

Surrogate Recovery

Toluene-d8:	116 %	%	104 %	%
Bromofluorobenzene:	92 %	%	116 %	%
1,2-Dichloroethane-d4:	94 %	%	94 %	%

Analytes

Chloromethane.....	10 U	NR	10 U	NR
Bromomethane.....	10 U	NR	10 U	NR
Vinyl Chloride.....	10 U	NR	10 U	NR
Chloroethane.....	10 U	NR	10 U	NR
Methylene Chloride.....	5 U	NR	5 U	NR
Acetone.....	10 U	NR	10 U	NR
Carbon Disulfide.....	5 U	NR	5 U	NR
1,1-Dichloroethene.....	5 U	4 U	5 U	4 U
1,1-Dichloroethane.....	5 U	NR	5 U	NR
Trans-1,2-Dichloroethene.....	5 U	4 U	5 U	4 U
Chloroform.....	5 U	4 U	5 U	4 U
1,2-Dichloroethane.....	5 U	4 U	5 U	4 U
2-Butanone.....	10 U	NR	10 U	NR
1,1,1-Trichloroethane.....	5 U	4 U	5 U	4 U
Carbon Tetrachloride.....	5 U	4 U	5 U	4 U
Vinyl Acetate.....	10 U	NR	10 U	NR
Bromodichloromethane.....	5 U	NR	5 U	NR
1,2-Dichloropropane.....	5 U	NR	5 U	NR
Trans-1,3-Dichloropropene.....	5 U	NR	5 U	NR
Trichloroethene.....	5 U	4 U	5 U	4 U
Dibromochloromethane.....	5 U	NR	5 U	NR
1,1,2-Trichloroethane.....	5 U	4 U	5 U	4 U
Benzene.....	5 U	NR	5 U	NR
cis-1,3-Dichloropropene.....	5 U	NR	5 U	NR
2-Chloroethylvinylether.....	NR	NR		NR
Bromoform.....	5 U	NR	5 U	NR
4-Methyl-2-pentanone.....	10 U	NR	10 U	NR
2-Hexanone.....	10 U	NR	10 U	NR
Tetrachloroethene.....	5 U	4 U	5 U	4 U
1,1,2,2-Tetrachloroethane.....	5 U	NR	5 U	NR
Toluene.....	5 U	NR	5 U	NR
Chlorobenzene.....	5 U	NR	5 U	NR
Ethylbenzene.....	5 U	NR	5 U	NR
Styrene.....	5 U	NR	5 U	NR
Total Xylenes.....	5 U	NR	5 U	NR

Modifiers: U=Analyzed, not detected. J=Present below detection limit. B=Present in blank. NS=Not spiked. %=Percent recovery.

SOLAR POND BEDROCK WELLS
GC/MS DATA SUMMARY
Volatile HAZARDOUS SUBSTANCE LIST COMPOUNDS

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

Page: 3

Sample Information

RFW Batch ID:	0287-881-041	0387-881-073	0487-881-073	0487-881-099
Customer ID:	16-86-06-10-87	16-86-08-06-87	16-86-12-17-87	23-86-01-15-88
Matrix:	Water	Water	Water	Water
Units:	UG/L	UG/L	UG/L	UG/L
Dilution Factor:	1		1.0	1.0

Surrogate Recovery

Toluene-d8:	%	%	114 %	100 %
Bromofluorobenzene:	%	%	74 %	107 %
1,2-Dichloroethane-d4:	%	%	90 %	149 %

Analytes

Chloromethane.....	NR	NR	10 U	10 U
Bromomethane.....	NR	NR	10 U	10 U
Vinyl Chloride.....	NR	NR	10 U	10 U
Chloroethane.....	NR	NR	10 U	10 U
Methylene Chloride.....	NR	NR	12.00	13
Acetone.....	NR	NR	10 U	10 U
Carbon Disulfide.....	NR	NR	5 U	5 U
1,1-Dichloroethene.....	4 U	5 U	5 U	5 U
1,1-Dichloroethane.....	NR	NR	5 U	5 U
Trans-1,2-Dichloroethene.....	4 U	5 U	5 U	5 U
Chloroform.....	4 U	5 U	5 U	5 U
1,2-Dichloroethane.....	4 U	5 U	5 U	5 U
2-Butanone.....	NR	NR	10 U	10 U
1,1,1-Trichloroethane.....	4 U	5 U	5 U	5 U
Carbon Tetrachloride.....	4 U	5 U	5 U	7
Vinyl Acetate.....	NR	NR	10 U	10 U
Bromodichloromethane.....	NR	NR	5 U	5 U
1,2-Dichloropropene.....	NR	NR	5 U	5 U
Trans-1,3-Dichloropropene.....	NR	NR	5 U	5 U
Trichloroethene.....	4 U	5 U	5 U	5 U
Dibromochloromethane.....	NR	NR	5 U	5 U
1,1,2-Trichloroethane.....	4 U	5 U	5 U	5 U
Benzene.....	NR	NR	5 U	5 U
cis-1,3-Dichloropropene.....	NR	NR	5 U	5 U
2-Chloroethylvinylether.....	NR	NR	NR	NA
Bromoform.....	NR	NR	5 U	5 U
4-Methyl-2-pentanone.....	NR	NR	10 U	10 U
2-Hexanone.....	NR	NR	10 U	10 U
Tetrachloroethene.....	4 U	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane.....	NR	NR	5 U	5 U
Toluene.....	NR	NR	5 U	5 U
Chlorobenzene.....	NR	NR	5 U	5 U
Ethylbenzene.....	NR	NR	5 U	5 U
Styrene.....	NR	NR	5 U	5 U
Total Xylenes.....	NR	NR	5 U	5 U

Modifiers: U=Analyzed, not detected. J=Present below detection limit. B=Present in blank. NS=Not spiked. %=Percent recovery.

SOLAR POND BEDROCK WELLS
GC/MS DATA SUMMARY
Volatile HAZARDOUS SUBSTANCE LIST COMPOUNDS

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

Page: 4

Sample Information

RFW Batch ID:	0187-881-111	0188-881-037	0287-881-089	0387-881-121
Customer ID:	23-86-03-18-87	23-86-03-21-88	23-86-06-24-87	23-86-09-23-87
Matrix:	Water	Water	Water	Water
Units:	UG/L	UG/L	UG/L	UG/L
Dilution Factor:	1	1.0		

Surrogate Recovery

Toluene-d8:	%	97 %	%	%
Bromofluorobenzene:	%	110 %	%	%
1,2-Dichloroethane-d4:	%	80 %	%	%

Analytes

Chloromethane.....	NR	10 U		NR
Bromomethane.....	NR	10 U		NR
Vinyl Chloride.....	NR	10 U		NR
Chloroethane.....	NR	10 U		NR
Methylene Chloride.....	NR	16		NR
Acetone.....	NR	10 U		NR
Carbon Disulfide.....	NR	5 U		NR
1,1-Dichloroethene.....	4 U	5 U	4 U	5 U
1,1-Dichloroethane.....	NR	5 U		NR
Trans-1,2-Dichloroethene.....	4 U	5 U	4 U	5 U
Chloroform.....	4 U	5 U	4 U	5 U
1,2-Dichloroethane.....	4 U	5 U	4 U	5 U
2-Butanone.....	NR	10 U		NR
1,1,1-Trichloroethane.....	4 U	5 U	4 U	5 U
Carbon Tetrachloride.....	4 U	5 U	4 U	5 U
Vinyl Acetate.....	NR	10 U		NR
Bromodichloromethane.....	NR	5 U		NR
1,2-Dichloropropane.....	NR	5 U		NR
Trans-1,3-Dichloropropene.....	NR	5 U		NR
Trichloroethene.....	4 U	5 U	4 U	5 U
Dibromochloromethane.....	NR	5 U		NR
1,1,2-Trichloroethane.....	4 U	5 U	4 U	5 U
Benzene.....	NR	5 U		NR
cis-1,3-Dichloropropene.....	NR	5 U		NR
2-Chloroethylvinylether.....	NR			NR
Bromoform.....	NR	5 U		NR
4-Methyl-2-pentanone.....	NR	10 U		NR
2-Hexanone.....	NR	10 U		NR
Tetrachloroethene.....	4 U	5 U	4 U	5 U
1,1,2,2-Tetrachloroethane.....	NR	5 U		NR
Toluene.....	NR	5 U		NR
Chlorobenzene.....	NR	5 U		NR
Ethylbenzene.....	NR	5 U		NR
Styrene.....	NR	5 U		NR
Total Xylenes.....	NR	5 U		NR

Modifiers: U=Analyzed, not detected. J=Present below detection limit. B=Present in blank. NS=Not spiked. %=Percent recovery.

SOLAR POND BEDROCK WELLS
GC/MS DATA SUMMARY
Volatile HAZARDOUS SUBSTANCE LIST COMPOUNDS

=====
RFW Batch Number: Client: ROCKWELL (ROCKY FLATS) Page: 5

Sample Information

RFW Batch ID:	0487-881-100	0187-881-021	0188-881-033	0287-881-066
Customer ID:	25-86-01-15-88	25-86-03-18-87	25-86-03-21-88	25-86-06-24-87
Matrix:	Water	Water	Water	Water
Units:	UG/L	UG/L	UG/L	UG/L
Dilution Factor:	1.0	1	1	1

Surrogate Recovery

Toluene-d8:	119 %	%	100 %	%
Bromofluorobenzene:	116 %	%	104 %	%
1,2-Dichloroethane-d4:	165 %	%	76 %	%

Analytes

Chloromethane.....	10 U	NR	10 U	NR
Bromomethane.....	10 U	NR	10 U	NR
Vinyl Chloride.....	10 U	NR	10 U	NR
Chloroethane.....	10 U	NR	10 U	NR
Methylene Chloride.....	5 U	NR	17	NR
Acetone.....	10 U	NR	10 U	NR
Carbon Disulfide.....	5 U	NR	5 U	NR
1,1-Dichloroethene.....	5 U	4 U	5 U	4 U
1,1-Dichloroethane.....	5 U	NR	5 U	NR
Trans-1,2-Dichloroethene.....	5 U	4 U	5 U	4 U
Chloroform.....	5 U	4 U	5 U	4 U
1,2-Dichloroethane.....	5 U	4 U	5 U	4 U
2-Butanone.....	10 U	NR	10 U	NR
1,1,1-Trichloroethane.....	5 U	4 U	5 U	4 U
Carbon Tetrachloride.....	7	4 U	5 U	4 U
Vinyl Acetate.....	10 U	NR	10 U	NR
Bromodichloromethane.....	5 U	NR	5 U	NR
1,2-Dichloropropane.....	5 U	NR	5 U	NR
Trans-1,3-Dichloropropene.....	5 U	NR	5 U	NR
Trichloroethene.....	5 U	4 U	5 U	4 U
Dibromochloromethane.....	5 U	NR	5 U	NR
1,1,2-Trichloroethane.....	5 U	4 U	5 U	4 U
Benzene.....	5 U	NR	5 U	NR
cis-1,3-Dichloropropene.....	5 U	NR	5 U	NR
2-Chloroethylvinylether.....	NA	NR		NR
Bromoform.....	5 U	NR	5 U	NR
4-Methyl-2-pentanone.....	10 U	NR	10 U	NR
2-Hexanone.....	10 U	NR	10 U	NR
Tetrachloroethene.....	5 U	4 U	5 U	4 U
1,1,2,2-Tetrachloroethane.....	5 U	NR	5 U	NR
Toluene.....	5 U	NR	5 U	NR
Chlorobenzene.....	5 U	NR	5 U	NR
Ethylbenzene.....	5 U	NR	5 U	NR
Styrene.....	5 U	NR	5 U	NR
Total Xylenes.....	5 U	NR	5 U	NR

Modifiers: U=Analyzed, not detected. J=Present below detection limit. B=Present in blank. NS=Not spiked. %=Percent recovery.

SOLAR POND BEDROCK WELLS
GC/MS DATA SUMMARY
Volatile HAZARDOUS SUBSTANCE LIST COMPOUNDS

===== RFW Batch Number: Client: ROCKWELL (ROCKY FLATS) Page: 6 =====

Sample Information

RFW Batch ID:	0387-881-104	0187-881-026	0188-881-034	0187-881-056
Customer ID:	25-86-08-27-87	27-86-03-19-87	27-86-03-21-88	27-86-04-15-87
Matrix:	Water	Water	Water	Water
Units:	UG/L	UG/L	UG/L	UG/L
Dilution Factor:		1	1.0	1

Surrogate Recovery

Toluene-d8:	%	%	97 %	%
BromoFluorobenzene:	%	%	102 %	%
1,2-Dichloroethane-d4:	%	%	79 %	%

Analytes

Chloromethane.....	NR	NR	10 U	NR
Bromomethane.....	NR	NR	10 U	NR
Vinyl Chloride.....	NR	NR	10 U	NR
Chloroethane.....	NR	NR	10 U	NR
Methylene Chloride.....	NR	NR	17	NR
Acetone.....	NR	NR	10 U	NR
Carbon Disulfide.....	NR	NR	5 U	NR
1,1-Dichloroethene.....	5 U	4 U	5 U	4 U
1,1-Dichloroethane.....	NR	NR	5 U	NR
Trans-1,2-Dichloroethene.....	5 U	4 U	5 U	4 U
Chloroform.....	5 U	4 U	5 U	4 U
1,2-Dichloroethane.....	5 U	4 U	5 U	4 U
2-Butanone.....	NR	NR	10 U	NR
1,1,1-Trichloroethane.....	5 U	4 U	5 U	4 U
Carbon Tetrachloride.....	5 U	4 U	5 U	4 U
Vinyl Acetate.....	NR	NR	10 U	NR
Bromodichloromethane.....	NR	NR	5 U	NR
1,2-Dichloropropane.....	NR	NR	5 U	NR
Trans-1,3-Dichloropropene.....	NR	NR	5 U	NR
Trichloroethene.....	5 U	4 U	5 U	4 U
Dibromochloromethane.....	NR	NR	5 U	NR
1,1,2-Trichloroethane.....	5 U	4 U	5 U	4 U
Benzene.....	NR	NR	5 U	NR
cis-1,3-Dichloropropene.....	NR	NR	5 U	NR
2-Chloroethylvinylether.....	NR	NR		NR
Bromoform.....	NR	NR	5 U	NR
4-Methyl-2-pentanone.....	NR	NR	10 U	NR
2-Hexanone.....	NR	NR	10 U	NR
Tetrachloroethene.....	5 U	4 U	5 U	4 U
1,1,2,2-Tetrachloroethane.....	NR	NR	5 U	NR
Toluene.....	NR	NR	5 U	NR
Chlorobenzene.....	NR	NR	5 U	NR
Ethylbenzene.....	NR	NR	5 U	NR
Styrene.....	NR	NR	5 U	NR
Total Xylenes.....	NR	NR	5 U	NR

Modifiers: U=Analyzed, not detected. J=Present below detection limit. B=Present in blank. NS=Not spiked. %=Percent recovery.

SOLAR POND BEDROCK WELLS
GC/MS DATA SUMMARY
Volatile HAZARDOUS SUBSTANCE LIST COMPOUNDS

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

Page: 7

Sample Information

RFW Batch ID:	0287-881-071	0387-881-119	0487-881-069	0487-881-101
Customer ID:	27-86-06-24-87	27-86-09-22-87	27-86-12-16-87	30-86-01-15-88
Matrix:	Water	Water	Water	Water
Units:	UG/L	UG/L	UG/L	UG/L
Dilution Factor:	1		1.0	1.0

Surrogate Recovery

Toluene-d8:	%	%	108 %	111 %
Bromofluorobenzene:	%	%	76 %	119 %
1,2-Dichloroethane-d4:	%	%	94 %	174 %

Analytes

Chloromethane.....	NR	NR	10 U	10 U
Bromomethane.....	NR	NR	10 U	10 U
Vinyl Chloride.....	NR	NR	10 U	10 U
Chloroethane.....	NR	NR	10 U	10 U
Methylene Chloride.....	NR	NR	13.00	5 U
Acetone.....	NR	NR	10 U	10 U
Carbon Disulfide.....	NR	NR	5 U	5 U
1,1-Dichloroethene.....	4 U	5 U	5 U	5 U
1,1-Dichloroethane.....	NR	NR	5 U	5 U
Trans-1,2-Dichloroethene.....	4 U	5 U	5 U	5 U
Chloroform.....	4 U	5 U	5 U	5 U
1,2-Dichloroethane.....	4 U	5 U	5 U	5 U
2-Butanone.....	NR	NR	10 U	10 U
1,1,1-Trichloroethane.....	4 U	5 U	5 U	5 U
Carbon Tetrachloride.....	4 U	5 U	5 U	5 U
Vinyl Acetate.....	NR	NR	10 U	10 U
Bromodichloromethane.....	NR	NR	5 U	5 U
1,2-Dichloropropane.....	NR	NR	5 U	5 U
Trans-1,3-Dichloropropene.....	NR	NR	5 U	5 U
Trichloroethene.....	4 U	5 U	5 U	5 U
Dibromochloromethane.....	NR	NR	5 U	5 U
1,1,2-Trichloroethane.....	4 U	5 U	5 U	5 U
Benzene.....	NR	NR	5 U	5 U
cis-1,3-Dichloropropene.....	NR	NR	5 U	5 U
2-Chloroethylvinylether.....	NR	NR	NR	NA
Bromoform.....	NR	NR	5 U	5 U
4-Methyl-2-pentanone.....	NR	NR	10 U	10 U
2-Hexanone.....	NR	NR	10 U	10 U
Tetrachloroethene.....	4 U	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane.....	NR	NR	5 U	5 U
Toluene.....	NR	NR	5 U	5 U
Chlorobenzene.....	NR	NR	5 U	5 U
Ethylbenzene.....	NR	NR	5 U	5 U
Styrene.....	NR	NR	5 U	5 U
Total Xylenes.....	NR	NR	5 U	5 U

Modifiers: U=Analyzed, not detected. J=Present below detection limit. B=Present in blank. NS=Not spiked. %=Percent recovery.

SOLAR POND BEDROCK WELLS
GC/MS DATA SUMMARY
Volatile HAZARDOUS SUBSTANCE LIST COMPOUNDS

===== RFW Batch Number: Client: ROCKWELL (ROCKY FLATS) Page: 8 =====

Sample Information

RFW Batch ID:	0188-881-032	0187-881-030	0187-881-055	0287-881-078
Customer ID:	30-86-03-16-88	30-86-03-23-87	30-86-04-15-87	30-86-06-24-87
Matrix:	Water	Water	Water	Water
Units:	UG/L	UG/L	UG/L	UG/L
Dilution Factor:	1.0	1	1	1

Surrogate Recovery

Toluene-d8:	118 %	%	%	%
Bromofluorobenzene:	134 %	%	%	%
1,2-Dichloroethane-d4:	102 %	%	%	%

Analytes

Chloromethane.....	10 U	NR	NR	NR
Bromomethane.....	10 U	NR	NR	NR
Vinyl Chloride.....	10 U	NR	NR	NR
Chloroethane.....	10 U	NR	NR	NR
Methylene Chloride.....	14	NR	NR	NR
Acetone.....	10 U	NR	NR	NR
Carbon Disulfide.....	5 U	NR	NR	NR
1,1-Dichloroethene.....	5 U	4 U	4 U	4 U
1,1-Dichloroethane.....	5 U	NR	NR	NR
Trans-1,2-Dichloroethene.....	5 U	4 U	4 U	4 U
Chloroform.....	5 U	4 U	4 U	4 U
1,2-Dichloroethane.....	5 U	4 U	4 U	4 U
2-Butanone.....	10 U	NR	NR	NR
1,1,1-Trichloroethane.....	5 U	4 U	4 U	4 U
Carbon Tetrachloride.....	5 U	4 U	4 U	4 U
Vinyl Acetate.....	10 U	NR	NR	NR
Bromodichloromethane.....	5 U	NR	NR	NR
1,2-Dichloropropane.....	5 U	NR	NR	NR
Trans-1,3-Dichloropropene.....	5 U	NR	NR	NR
Trichloroethene.....	5 U	4 U	5	4 U
Dibromochloromethane.....	5 U	NR	NR	NR
1,1,2-Trichloroethane.....	5 U	4 U	4 U	4 U
Benzene.....	5 U	NR	NR	NR
cis-1,3-Dichloropropene.....	5 U	NR	NR	NR
2-Chloroethylvinylether.....		NR	NR	NR
Bromoform.....	5 U	NR	NR	NR
4-Methyl-2-pentanone.....	10 U	NR	NR	NR
2-Hexanone.....	10 U	NR	NR	NR
Tetrachloroethene.....	5 U	4 U	4 U	16
1,1,2,2-Tetrachloroethane.....	5 U	NR	NR	NR
Toluene.....	5 U	NR	NR	NR
Chlorobenzene.....	5 U	NR	NR	NR
Ethylbenzene.....	5 U	NR	NR	NR
Styrene.....	5 U	NR	NR	NR
Total Xylenes.....	5 U	NR	NR	NR

Modifiers: U=Analyzed, not detected. J=Present below detection limit. B=Present in blank. NS=Not spiked. %=Percent recovery.

SOLAR POND BEDROCK WELLS
GC/MS DATA SUMMARY
Volatile HAZARDOUS SUBSTANCE LIST COMPOUNDS

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

Page: 9

Sample Information

RFW Batch ID:	0387-881-123	0188-881-035	0187-881-031	0187-881-054
Customer ID:	30-86-09-23-87	32-86-03-21-88	32-86-03-23-87	32-86-04-15-87
Matrix:	Water	Water	Water	Water
Units:	UG/L	UG/L	UG/L	UG/L
Dilution Factor:		1.0	1	1

Surrogate Recovery

Toluene-d8:	%	97 %	%	%
Bromofluorobenzene:	%	104 %	%	%
1,2-Dichloroethane-d4:	%	80 %	%	%

Analytes

Chloromethane.....	NR	10 U	NR	NR
Bromomethane.....	NR	10 U	NR	NR
Vinyl Chloride.....	NR	10 U	NR	NR
Chloroethane.....	NR	10 U	NR	NR
Methylene Chloride.....	NR	17	NR	NR
Acetone.....	NR	10 U	NR	NR
Carbon Disulfide.....	NR	5 U	NR	NR
1,1-Dichloroethene.....	5 U	5 U	4 U	4 U
1,1-Dichloroethane.....	NR	5 U	NR	NR
Trans-1,2-Dichloroethene.....	5 U	5 U	4 U	4 U
Chloroform.....	5 U	5 U	4 U	4 U
1,2-Dichloroethane.....	5 U	5 U	4 U	4 U
2-Butanone.....	NR	10 U	NR	NR
1,1,1-Trichloroethane.....	5 U	5 U	4 U	4 U
Carbon Tetrachloride.....	5 U	5 U	4 U	4 U
Vinyl Acetate.....	NR	10 U	NR	NR
Bromodichloromethane.....	NR	5 U	NR	NR
1,2-Dichloropropane.....	NR	5 U	NR	NR
Trans-1,3-Dichloropropene.....	NR	5 U	NR	NR
Trichloroethene.....	5 U	5 U	4 U	4 U
Dibromochloromethane.....	NR	5 U	NR	NR
1,1,2-Trichloroethane.....	5 U	5 U	4 U	4 U
Benzene.....	NR	5 U	NR	NR
cis-1,3-Dichloropropene.....	NR	5 U	NR	NR
2-Chloroethylvinylether.....	NR		NR	NR
Bromoform.....	NR	5 U	NR	NR
4-Methyl-2-pentanone.....	NR	10 U	NR	NR
2-Hexanone.....	NR	10 U	NR	NR
Tetrachloroethene.....	5 U	5 U	4 U	4 U
1,1,2,2-Tetrachloroethane.....	NR	5 U	NR	NR
Toluene.....	NR	5 U	NR	NR
Chlorobenzene.....	NR	5 U	NR	NR
Ethylbenzene.....	NR	5 U	NR	NR
Styrene.....	NR	5 U	NR	NR
Total Xylenes.....	NR	5 U	NR	NR

Modifiers: U=Analyzed, not detected. J=Present below detection limit. B=Present in blank. NS=Not spiked. %=Percent recovery.

SOLAR POND BEDROCK WELLS
GC/MS DATA SUMMARY
Volatile HAZARDOUS SUBSTANCE LIST COMPOUNDS

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

Page: 10

Sample Information

RFW Batch ID:	0287-881-073	0387-881-120	0487-881-070	0188-881-027
Customer ID:	32-86-06-29-87	32-86-09-22-87	32-86-12-16-87	39-87-03-16-88
Matrix:	Water	Water	Water	Water
Units:	UG/L	UG/L	UG/L	UG/L
Dilution Factor:	1		.1.0	1.0

Surrogate Recovery

Toluene-d8:	%	%	116 %	99 %
Bromofluorobenzene:	%	%	76 %	105 %
1,2-Dichloroethane-d4:	%	%	92 %	81 %

Analytes

Chloromethane.....	NR	NR	10 U	10 U
Bromomethane.....	NR	NR	10 U	10 U
Vinyl Chloride.....	NR	NR	10 U	10 U
Chloroethane.....	NR	NR	10 U	10 U
Methylene Chloride.....	NR	NR	14.00	13
Acetone.....	NR	NR	10 U	10 U
Carbon Disulfide.....	NR	NR	5 U	5 U
1,1-Dichloroethene.....	4 U	5 U	5 U	5 U
1,1-Dichloroethane.....	NR	NR	5 U	5 U
Trans-1,2-Dichloroethene.....	4 U	5 U	5 U	5 U
Chloroform.....	4 U	5 U	5 U	5 U
1,2-Dichloroethane.....	4 U	5 U	5 U	5 U
2-Butanone.....	NR	NR	10 U	10 U
1,1,1-Trichloroethane.....	4 U	5 U	5 U	5 U
Carbon Tetrachloride.....	4 U	5 U	5 U	5 U
Vinyl Acetate.....	NR	NR	10 U	10 U
Bromodichloromethane.....	NR	NR	5 U	5 U
1,2-Dichloropropane.....	NR	NR	5 U	5 U
Trans-1,3-Dichloropropene.....	NR	NR	5 U	5 U
Trichloroethene.....	4 U	5 U	5 U	5 U
Dibromochloromethane.....	NR	NR	5 U	5 U
1,1,2-Trichloroethane.....	4 U	5 U	5 U	5 U
Benzene.....	NR	NR	5 U	5 U
cis-1,3-Dichloropropene.....	NR	NR	5 U	5 U
2-Chloroethylvinylether.....	NR	NR	NR	
Bromoform.....	NR	NR	5 U	5 U
4-Methyl-2-pentanone.....	NR	NR	10 U	10 U
2-Hexanone.....	NR	NR	10 U	10 U
Tetrachloroethene.....	4 U	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane.....	NR	NR	5 U	5 U
Toluene.....	NR	NR	5 U	5 U
Chlorobenzene.....	NR	NR	5 U	5 U
Ethylbenzene.....	NR	NR	5 U	5 U
Styrene.....	NR	NR	5 U	5 U
Total Xylenes.....	NR	NR	5 U	5 U

Modifiers: U=Analyzed, not detected. J=Present below detection limit. B=Present in blank. NS=Not spiked. %=Percent recovery.

SOLAR POND BEDROCK WELLS
GC/MS DATA SUMMARY
Volatile HAZARDOUS SUBSTANCE LIST COMPOUNDS

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

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Sample Information

RFW Batch ID:	8609-049-026	8609-049-036	8609-049-041	8612-002-061
Customer ID:	G148609860	G148609862	G168609860	G238611860
Matrix:	Water	Water	Water	Water
Units:	UG/L	UG/L	UG/L	UG/L
Dilution Factor:	1	1	1	1

Surrogate Recovery

Toluene-d8:	92 %	90 %	92 %	106 %
Bromofluorobenzene:	104 %	100 %	104 %	98 %
1,2-Dichloroethane-d4:	96 %	98 %	98 %	110 %

Analytes

Chloromethane.....	10 U	10 U	10 U	10 U
Bromomethane.....	10 U	10 U	10 U	10 U
Vinyl Chloride.....	10 U	10 U	10 U	10 U
Chloroethane.....	10 U	10 U	10 U	10 U
Methylene Chloride.....	4 J	5 U	5 U	5 U
Acetone.....	7 BJ	5 BJ	7 BJ	10 U
Carbon Disulfide.....	5 U	5 U	5 U	5 U
1,1-Dichloroethene.....	5 U	5 U	5 U	5 U
1,1-Dichloroethane.....	5 U	5 U	5 U	5 U
Trans-1,2-Dichloroethene.....	5 U	5 U	5 U	5 U
Chloroform.....	5 U	5 U	5 U	5 U
1,2-Dichloroethane.....	5 U	5 U	5 U	5 U
2-Butanone.....	10 U	10 U	10 U	10 U
1,1,1-Trichloroethane.....	5 U	5 U	5 U	5 U
Carbon Tetrachloride.....	5 U	5 U	5 U	5 U
Vinyl Acetate.....	10 U	10 U	10 U	10 U
Bromodichloromethane.....	5 U	5 U	5 U	5 U
1,2-Dichloropropane.....	5 U	5 U	5 U	5 U
Trans-1,3-Dichloropropene.....	5 U	5 U	5 U	5 U
Trichloroethene.....	5 U	5 U	5 U	5 U
Dibromochloromethane.....	5 U	5 U	5 U	5 U
1,1,2-Trichloroethane.....	5 U	5 U	5 U	5 U
Benzene.....	5 U	5 U	5 U	5 U
cis-1,3-Dichloropropene.....	5 U	5 U	5 U	5 U
2-Chloroethylvinylether.....	10 U	10 U	10 U	10 U
Bromoform.....	5 U	5 U	5 U	5 U
4-Methyl-2-pentanone.....	10 U	10 U	10 U	10 U
2-Hexanone.....	10 U	10 U	10 U	10 U
Tetrachloroethene.....	5 U	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane.....	5 U	5 U	5 U	5 U
Toluene.....	5 U	5 U	5 U	5 U
Chlorobenzene.....	5 U	5 U	5 U	5 U
Ethylbenzene.....	5 U	5 U	5 U	5 U
Styrene.....	5 U	5 U	5 U	5 U
Total Xylenes.....	5 U	5 U	5 U	5 U

Modifiers: U=Analyzed, not detected. J=Present below detection limit. B=Present in blank. NS=Not spiked. %=Percent recovery.

SOLAR POND BEDROCK WELLS
GC/MS DATA SUMMARY
Volatile HAZARDOUS SUBSTANCE LIST COMPOUNDS

===== RFW Batch Number: Client: ROCKWELL (ROCKY FLATS), Page: 12 =====

Sample Information

RFW Batch ID:	8611-014-031	8611-014-036	8609-051-016	8611-014-041
Customer ID:	G258611860	G278611860	G308609860	G328611860
Matrix:	Water	Water	Water	Water
Units:	UG/L	UG/L	UG/L	UG/L
Dilution Factor:	1	1	1	1

Surrogate Recovery

Toluene-d8:	96 %	96 %	96 %	98 %
BromoFluorobenzene:	96 %	94 %	98 %	94 %
1,2-Dichloroethane-d4:	90 %	90 %	104 %	96 %

Analytes

Chloromethane.....	10 U	10 U	10 U	10 U
Bromomethane.....	10 U	10 U	10 U	10 U
Vinyl Chloride.....	10 U	10 U	10 U	10 U
Chloroethane.....	10 U	10 U	10 U	10 U
Methylene Chloride.....	5 U	2 J	5 U	5 U
Acetone.....	21 B	7 JB	10 U	10 U
Carbon Disulfide.....	5 U	5 U	5 U	5 U
1,1-Dichloroethene.....	5 U	5 U	5 U	5 U
1,1-Dichloroethane.....	5 U	5 U	5 U	5 U
Trans-1,2-Dichloroethene.....	5 U	5 U	5 U	5 U
Chloroform.....	5 U	5 U	5 U	5 U
1,2-Dichloroethane.....	5 U	5 U	5 U	5 U
2-Butanone.....	15	10 U	10 U	9 J
1,1,1-Trichloroethane.....	5 U	5 U	5 U	5 U
Carbon Tetrachloride.....	5 U	5 U	5 U	5 U
Vinyl Acetate.....	10 U	10 U	10 U	10 U
Bromodichloromethane.....	5 U	5 U	5 U	5 U
1,2-Dichloropropane.....	5 U	5 U	5 U	5 U
Trans-1,3-Dichloropropene.....	5 U	5 U	5 U	5 U
Trichloroethene.....	5 U	1 J	5 U	5 U
Dibromochloromethane.....	5 U	5 U	5 U	5 U
1,1,2-Trichloroethane.....	5 U	5 U	5 U	5 U
Benzene.....	5 U	5 U	5 U	5 U
cis-1,3-Dichloropropene.....	5 U	5 U	5 U	5 U
2-Chloroethylvinylether.....	10 U	10 U	10 U	10 U
Bromoform.....	5 U	5 U	5 U	5 U
4-Methyl-2-pentanone.....	10 U	10 U	10 U	10 U
2-Hexanone.....	10 U	10 U	10 U	10 U
Tetrachloroethene.....	5 U	5 U	2 J	5 U
1,1,2,2-Tetrachloroethane.....	5 U	5 U	5 U	5 U
Toluene.....	2 J	5 U	5 U	5 U
Chlorobenzene.....	5 U	5 U	5 U	5 U
Ethylbenzene.....	5 U	5 U	5 U	5 U
Styrene.....	5 U	5 U	5 U	5 U
Total Xylenes.....	5 U	5 U	5 U	5 U

Modifiers: U=Analyzed, not detected. J=Present below detection limit. B=Present in blank. NS=Not spiked. % = Percent recovery.

RADIONUCLIDES

SOLAR POND CLOSURE CHARACTERIZATION REPORT
ROCKY FLATS PLANT, GOLDEN, COLORADO

1 JULY 1988

APPENDICES

List: Customer ID's: All

RFW Batch ID	Customer ID	Laboratory ID
0188-881-022	14-86-03-15-88	
0187-881-061	14-86-04-16-87	
0287-881-039	14-86-06-10-87	
0387-881-049	14-86-08-06-87	
0487-881-045	14-86-12-09-87	
0188-881-024	16-86-03-15-88	
0187-881-063	16-86-04-22-87	
0287-881-041	16-86-06-10-87	
0387-881-058	16-86-08-07-87	
0487-881-061	16-86-12-18-87	
0487-881-079	23-86-01-16-88	
0188-881-037	23-86-03-22-88	
0487-881-080	25-86-01-16-88	
0187-881-021	25-86-03-18-87	
0188-881-033	25-86-03-22-88	
0287-881-066	25-86-06-24-87	
0387-881-089	25-86-08-28-87	
0487-881-081	25-86D-01-16-88	
0187-881-026	27-86-03-19-87	
0188-881-034	27-86-03-22-88	
0187-881-058	27-86-04-15-87	
0287-881-071	27-86-06-24-87	
0487-881-059	27-86-12-17-87	
0487-881-082	30-86-01-16-88	
0188-881-032	30-86-03-17-88	
0187-881-030	30-86-03-23-87	
0187-881-057	30-86-04-15-87	
0287-881-078	30-86-06-24-87	
0387-881-105	30-86-09-24-87	
0188-881-035	32-86-03-22-88	
0187-881-031	32-86-03-23-87	
0187-881-056	32-86-04-15-87	
0287-881-073	32-86-06-29-87	
0387-881-106	32-86-09-23-87	
0487-881-060	32-86-12-17-87	
0188-881-027	39-87-03-17-88	
1000-000-251	G148609860	22756-5-2
1000-000-253	G148609862	22756-5-4
1000-000-257	G168609860	22756-5-5
1000-000-271	G328611860	23088-3-2

SOLAR POND BEDROCK WELLS
RADIOCHEMISTRY
DATA SUMMARY REPORT

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

Page: 1

Sample Information

RFW Batch ID:	0188-881-022	0187-881-061	0287-881-039
Customer ID:	14-86-03-15-88	14-86-04-16-87	14-86-06-10-87
Matrix:	Water	Water	Water

Radio Chemistry

Gross Alpha.....	0 +/- 5	pCi/l	4 +/- 6	pCi/l	4 +/- 6	pCi/l
Gross Beta.....	7 +/- 11	pCi/l	.11 +/- 3	pCi/l	45 +/- 16	pCi/l
Uranium 233, 234.....	1.1 +/- 0.2	pCi/l	2.6 +/- 1.9	pCi/l	13 +/- 2	pCi/l
Uranium 235.....	0.00 +/- 0.06	pCi/l	.23 +/- .78	pCi/l	0.66 +/- 0.44	pCi/l
Uranium 238.....	0.30 +/- 0.12	pCi/l	0.2 +/- 1.0	pCi/l	14 +/- 2	pCi/l
Strontium 89, 90.....			1.38	pCi/l	<1.0	pCi/l
Plutonium 239, 240.....	0.00 +/- 0.40	pCi/l	1.2 +/- 0.9	pCi/l	0.0 +/- 0.8	pCi/l
Americium 241.....	0.00 +/- 0.61	pCi/l	0.0 +/- 1.2	pCi/l	0.0 +/- 1.2	pCi/l
Cesium 137.....			NR		NR	
Tritium.....	< 210	pCi/l	<110	pCi/l	<110	pCi/l

Sample Information

RFW Batch ID:	0387-881-049	0487-881-045	0188-881-024
Customer ID:	14-86-08-06-87	14-86-12-09-87	16-86-03-15-88
Matrix:	Water	Water	Water

Radio Chemistry

Gross Alpha.....	9 +/- 28	pCi/l	5 +/- 8	pCi/l	-1 +/- 6	pCi/l
Gross Beta.....	22 +/- 47	pCi/l	-4 +/- 12	pCi/l	12 +/- 56	pCi/l
Uranium 233, 234.....	1.6 +/- 1.5	pCi/l	1.1 +/- 0.2	pCi/l	1.1 +/- 0.2	pCi/l
Uranium 235.....	0.1 +/- 0.4	pCi/l	0.00 +/- .02	pCi/l	0.06 +/- 0.07	pCi/l
Uranium 238.....	-0.9 +/- 1.0	pCi/l	.22 +/- .12	pCi/l	0.52 +/- 0.15	pCi/l
Strontium 89, 90.....	<1.0	pCi/l	<1.0	pCi/l		
Plutonium 239, 240.....	.25 +/- .82	pCi/l	0.00 +/- .37	pCi/l	0.00 +/- 0.40	pCi/l
Americium 241.....	.04 +/- .40	pCi/l	0.00 +/- .13	pCi/l	0.03 +/- 0.14	pCi/l
Cesium 137.....						
Tritium.....	<492	pCi/l	<210	pCi/l	< 200	pCi/l

SOLAR POND BEDROCK WELLS
RADIOCHEMISTRY
DATA SUMMARY REPORT

RFW Batch Number: Client: ROCKWELL (ROCKY FLATS) Page: 2

Sample Information

RFW Batch ID:	0187-881-063	0287-881-041	0387-881-058
Customer ID:	16-86-04-22-87	16-86-06-10-87	16-86-08-07-87
Matrix:	Water	Water	Water

Radio Chemistry

Gross Alpha.....	27 +/- 9	pCi/l	27 +/- 13	pCi/l	29 +/- 31	pCi/l
Gross Beta.....	21 +/- 50	pCi/l	61 +/- 14	pCi/l	18 +/- 45	pCi/l
Uranium 233, 234.....	1.0 +/- 0.8	pCi/l	0.56 +/- 0.69	pCi/l	2.3 +/- 1.8	pCi/l
Uranium 235.....	.40 +/- .46	pCi/l	0.08 +/- 0.35	pCi/l	1.3 +/- 1.2	pCi/l
Uranium 238.....	.48 +/- .53	pCi/l	1.1 +/- 0.6	pCi/l	0.4 +/- 1.2	pCi/l
Strontium 89, 90.....	1.53	pCi/l	1.0	pCi/l	1.3	pCi/l
Plutonium 239, 240.....	0.3 +/- 1.1	pCi/l	0.0 +/- 0.66	pCi/l	.03 +/- .21	pCi/l
Americium 241.....	0.4 +/- 1.6	pCi/l	0.0 +/- 1.3	pCi/l	.10 +/- .33	pCi/l
Cesium 137.....	NR		NR			
Tritium.....	<110	pCi/l	<110	pCi/l	<540	pCi/l

Sample Information

RFW Batch ID:	0487-881-061	0487-881-079	0188-881-037
Customer ID:	16-86-12-18-87	23-86-01-16-88	23-86-03-22-88
Matrix:	Water	Water	Water

Radio Chemistry

Gross Alpha.....	8 +/- 11	pCi/l	11 +/- 8	pCi/l	0 +/- 9	pCi/l
Gross Beta.....	24 +/- 12	pCi/l	28 +/- 13	pCi/l	17 +/- 23	pCi/l
Uranium 233, 234.....	.63 +/- .33	pCi/l	2.7 +/- 0.4	pCi/l	0.05 +/- 0.10	pCi/l
Uranium 235.....	0.00 +/- .10	pCi/l	.06 +/- .06	pCi/l	2.9 +/- 0.4	pCi/l
Uranium 238.....	.14 +/- .18	pCi/l	1.1 +/- 0.2	pCi/l	0.14 +/- 0.08	pCi/l
Strontium 89, 90.....	<1.0	pCi/l	<1.0	pCi/l		
Plutonium 239, 240.....	0.00 +/- .18	pCi/l	0.00 +/- .16	pCi/l	0.00 +/- 0.71	pCi/l
Americium 241.....			.01 +/- .11	pCi/l	0.05 +/- 0.10	pCi/l
Cesium 137.....						
Tritium.....	<210	pCi/l	<220	pCi/l	< 210	pCi/l

SOLAR POND BEDROCK WELLS
RADIOCHEMISTRY
DATA SUMMARY REPORT

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RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

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Sample Information

RFW Batch ID:	0487-881-080	0187-881-021	0188-881-033
Customer ID:	25-86-01-16-88	25-86-03-18-87	25-86-03-22-88
Matrix:	Water	Water	Water

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Radio Chemistry

Gross Alpha.....	13 +/- 11	pCi/l	140 +/- 26	pCi/l	0 +/- 10	pCi/l
Gross Beta.....	13 +/- 14	pCi/l	116 +/- 31	pCi/l	13 +/- 22	pCi/l
Uranium 233, 234.....	6.6 +/- 1.1	pCi/l	9.1 +/- 2.6	pCi/l	4.3 +/- 0.7	pCi/l
Uranium 235.....	.19 +/- .14	pCi/l	0.06 +/- 0.66	pCi/l	0.26 +/- 0.14	pCi/l
Uranium 238.....	2.1 +/- 0.5	pCi/l	7.0 +/- 1.9	pCi/l	1.1 +/- 0.3	pCi/l
Strontium 89, 90.....	<1.0	pCi/l	1.8	pCi/l		
Plutonium 239, 240.....	0.00 +/- .24	pCi/l	0.08 +/- 0.80	pCi/l		
Americium 241.....	0.00 +/- .10	pCi/l	0.0 +/- 8.4	pCi/l	0.03 +/- 0.30	pCi/l
Cesium 137.....			NR			
Tritium.....	<220	pCi/l	210	pCi/l	< 210	pCi/l

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Sample Information

RFW Batch ID:	0287-881-066	0387-881-089	0487-881-081
Customer ID:	25-86-06-24-87	25-86-08-28-87	25-86-01-16-88
Matrix:	Water	Water	Water

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Radio Chemistry

Gross Alpha.....	18 +/- 12	pCi/l	16 +/- 41	pCi/l	3 +/- 8	pCi/l
Gross Beta.....	6 +/- 8	pCi/l	54 +/- 52	pCi/l	13 +/- 14	pCi/l
Uranium 233, 234.....	2.3 +/- 0.9	pCi/l	1.4 +/- 1.7	pCi/l	5.1 +/- 0.8	pCi/l
Uranium 235.....	0.06 +/- 0.33	pCi/l	0.6 +/- 0.7	pCi/l	.18 +/- .09	pCi/l
Uranium 238.....	1.8 +/- 0.8	pCi/l	2.4 +/- 1.7	pCi/l	1.4 +/- 0.3	pCi/l
Strontium 89, 90.....	2.3	pCi/l	<1.0	pCi/l		
Plutonium 239, 240.....	0.0 +/- 0.79	pCi/l	.29 +/- .77	pCi/l	0.00 +/- .49	pCi/l
Americium 241.....	0.0 +/- 1.3	pCi/l	.04 +/- .18	pCi/l		
Cesium 137.....	NR					
Tritium.....	<110	pCi/l	<492	pCi/l	<220	pCi/l

SOLAR POND BEDROCK WELLS
RADIOCHEMISTRY
DATA SUMMARY REPORT

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RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

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Sample Information

RFW Batch ID:	0187-881-026	0188-881-034	0187-881-058
Customer ID:	27-86-03-19-87	27-86-03-22-88	27-86-04-15-87
Matrix:	Water	Water	Water

Radio Chemistry

Gross Alpha.....	32 +/- 14	pCi/l	-1 +/- 9	pCi/l	7 +/- 9	pCi/l
Gross Beta.....	73 +/- 10	pCi/l	11 +/- 22	pCi/l	21 +/- 20	pCi/l
Uranium 233, 234.....	1.8 +/- 1.7	pCi/l			1.1 +/- 0.9	pCi/l
Uranium 235.....	0.23 +/- 0.77	pCi/l			.19 +/- .41	pCi/l
Uranium 238.....	2.6 +/- 1.7	pCi/l			.39 +/- .59	pCi/l
Strontium 89, 90.....	1.8	pCi/l			NR	
Plutonium 239, 240.....	0.0 +/- 0.94	pCi/l	0.00 +/- 0.18	pCi/l	0.0 +/- .79	pCi/l
Americium 241.....	0.0 +/- 1.6	pCi/l	0.00 +/- 0.51	pCi/l	0.2 +/- 1.9	pCi/l
Cesium 137.....	NR				NR	
Tritium.....	<110	pCi/l	< 210	pCi/l	<110	pCi/l

Sample Information

RFW Batch ID:	0287-881-071	0487-881-059	0487-881-082
Customer ID:	27-86-06-24-87	27-86-12-17-87	30-86-01-16-88
Matrix:	Water	Water	Water

Radio Chemistry

Gross Alpha.....	6 +/- 8	pCi/l	3 +/- 5	pCi/l	304 +/- 69	pCi/l
Gross Beta.....	15 +/- 59	pCi/l	5 +/- 11	pCi/l	215 +/- 20	pCi/l
Uranium 233, 234.....	1.7 +/- 0.9	pCi/l	.55 +/- .17	pCi/l	160 +/- 34	pCi/l
Uranium 235.....	0.0 +/- 0.31	pCi/l	0.00 +/- .05	pCi/l	5.2 +/- 1.4	pCi/l
Uranium 238.....	0.97 +/- 0.61	pCi/l	.45 +/- .14	pCi/l	100 +/- 22	pCi/l
Strontium 89, 90.....	<1.0	pCi/l	<1.0	pCi/l	5.6	pCi/l
Plutonium 239, 240.....	0.5 +/- 0.7	pCi/l	0.00 +/- .16	pCi/l	0.00 +/- .37	pCi/l
Americium 241.....	0.2 +/- 1.2	pCi/l	0.00 +/- .69	pCi/l		
Cesium 137.....	NR					
Tritium.....	<110	pCi/l	<210	pCi/l	7900 +/- 200	pCi/l

SOLAR POND BEDROCK WELLS
RADIOCHEMISTRY
DATA SUMMARY REPORT

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

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Sample Information

RFW Batch ID:	0188-881-032	0187-881-030	0187-881-057
Customer ID:	30-86-03-17-88	30-86-03-23-87	30-86-04-15-87
Matrix:	Water	Water	Water

Radio Chemistry

Gross Alpha.....	320 +/- 60	pCi/l	261 +/- 41	pCi/l	158 +/- 124	pCi/l
Gross Beta.....	250 +/- 40	pCi/l	219 +/- 30	pCi/l	178 +/- 50	pCi/l
Uranium 233, 234.....			19 +/- 42	pCi/l	370 +/- 250	pCi/l
Uranium 235.....			10 +/- 6	pCi/l	0.0 +/- 57	pCi/l
Uranium 238.....			125 +/- 29	pCi/l	32 +/- 67	pCi/l
Strontium 89, 90.....			5.01	pCi/l	6.61	pCi/l
Plutonium 239, 240.....	0.00 +/- 0.74	pCi/l	0.0 +/- 1.9	pCi/l	0.0 +/- 3.8	pCi/l
Americium 241.....			1.1 +/- 9.9	pCi/l	0.0 +/- 1.2	pCi/l
Cesium 137.....			NR		NR	
Tritium.....	6300 +/- 200	pCi/l	6400	pCi/l	8500	pCi/l

Sample Information

RFW Batch ID:	0287-881-078	0387-881-105	0188-881-035
Customer ID:	30-86-06-24-87	30-86-09-24-87	32-86-03-22-88
Matrix:	Water	Water	Water

Radio Chemistry

Gross Alpha.....	327 +/- 182	pCi/l	221 +/- 224	pCi/l	0 +/- 9	pCi/l
Gross Beta.....	372 +/- 58	pCi/l	121 +/- 60	pCi/l	5 +/- 22	pCi/l
Uranium 233, 234.....	150 +/- 50	pCi/l	139.6 +/- 21.1	pCi/l	0.33 +/- 0.15	pCi/l
Uranium 235.....	6.2 +/- 44	pCi/l	6.5 +/- 2.0	pCi/l	0.14 +/- 0.10	pCi/l
Uranium 238.....	97 +/- 34	pCi/l	93.1 +/- 14.7	pCi/l	1.7 +/- 0.3	pCi/l
Strontium 89, 90.....	4.3 +/- 0.8	pCi/l	NR			
Plutonium 239, 240.....	0.0 +/- 0.55	pCi/l	-0.2 +/- 1.1	pCi/l	0.00 +/- 0.38	pCi/l
Americium 241.....	0.0 +/- 1.3	pCi/l	-0.04 +/- .96	pCi/l	0.10 +/- 0.10	pCi/l
Cesium 137.....	NR					
Tritium.....	9800	pCi/l	8611 +/- 825	pCi/l	< 210	pCi/l

SOLAR POND BEDROCK WELLS
RADIOCHEMISTRY
DATA SUMMARY REPORT

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RFW Batch Number: Client: ROCKWELL (ROCKY FLATS) Page: 6

Sample Information

RFW Batch ID:	0187-881-031	0187-881-056	0287-881-073
Customer ID:	32-86-03-23-87	32-86-04-15-87	32-86-06-29-87
Matrix:	Water	Water	Water

Radio Chemistry

Gross Alpha.....	28 +/- 13	pCi/l	60 +/- 28	pCi/l	-3 +/- 4	pCi/l
Gross Beta.....	38 +/- 5	pCi/l	27 +/- 24	pCi/l	6 +/- 3	pCi/l
Uranium 233, 234.....	1.3 +/- 0.8	pCi/l	2.4 +/- 1.1	pCi/l	0.57 +/- 0.73	pCi/l
Uranium 235.....	0.18 +/- 0.36	pCi/l	.001 +/- .43	pCi/l	0.0 +/- 0.37	pCi/l
Uranium 238.....	1.6 +/- 0.8	pCi/l	.87 +/- .87	pCi/l	0.52 +/- 0.54	pCi/l
Strontium 89, 90.....	<0.6	pCi/l	2.66	pCi/l	<1.0	pCi/l
Plutonium 239, 240.....	0.24 +/- 0.70	pCi/l	0.0 +/- 1.3	pCi/l	0.0 +/- .67	pCi/l
Americium 241.....	0.0 +/- 1.8	pCi/l	0.0 +/- 1.2	pCi/l	0.0 +/- 1.2	pCi/l
Cesium 137.....	NR		NR		NR	
Tritium.....	<110	pCi/l	<110	pCi/l	<110	pCi/l

Sample Information

RFW Batch ID:	0387-881-106	0487-881-060	0188-881-027
Customer ID:	32-86-09-23-87	32-86-12-17-87	39-87-03-17-88
Matrix:	Water	Water	Water

Radio Chemistry

Gross Alpha.....	-2 +/- 19	pCi/l	5 +/- 6	pCi/l	-2 +/- 3	pCi/l
Gross Beta.....	6 +/- 40	pCi/l	-3 +/- 10	pCi/l	1 +/- 11	pCi/l
Uranium 233, 234.....	0.6 +/- 1.3	pCi/l	.89 +/- .21	pCi/l	0.78 +/- 0.16	pCi/l
Uranium 235.....	-0.1 +/- 0.7	pCi/l	0.00 +/- .02	pCi/l	0.01 +/- 0.06	pCi/l
Uranium 238.....	3.2 +/- 1.0	pCi/l	.32 +/- .13	pCi/l	0.33 +/- 0.11	pCi/l
Strontium 89, 90.....	<1.0	pCi/l	<1.0	pCi/l		
Plutonium 239, 240.....	0.2 +/- 1.0	pCi/l	0.00 +/- .21	pCi/l	0.01 +/- 0.10	pCi/l
Americium 241.....	-.04 +/- .26	pCi/l	0.00 +/- .14	pCi/l	0.00 +/- 0.11	pCi/l
Cesium 137.....						
Tritium.....	<472	pCi/l	<210	pCi/l	< 210	pCi/l

SOLAR POND BEDROCK WELLS
RADIOCHEMISTRY
DATA SUMMARY REPORT

===== RFW Batch Number: Client: ROCKWELL (ROCKY FLATS) =====

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Sample Information

RFW Batch ID:	1000-000-251	1000-000-253	1000-000-257
Customer ID:	G148609860	G148609862	G168609860
Matrix:	Water	Water	Water

Radio Chemistry

Gross Alpha.....	54 +/- 24	pCi/l	71 +/- 31	pCi/l	22 +/- 20	pCi/l
Gross Beta.....	36 +/- 12	pCi/l	68 +/- 13	pCi/l	33 +/- 21	pCi/l
Uranium 233, 234.....	7.4 +/- 0.7	pCi/l	6.8 +/- 1.8	pCi/l	3.0 +/- 1.0	pCi/l
Uranium 235.....	NR		NR		NR	
Uranium 238.....	2.8 +/- 0.4	pCi/l	4.4 +/- 1.4	pCi/l	2.1 +/- 0.8	pCi/l
Strontium 89, 90.....	NR		NR		NR	
Plutonium 239, 240.....	-0.04 +/- 0.07	pCi/l	-0.25 +/- 0.98	pCi/l	-0.48 +/- 0.67	pCi/l
Americium 241.....	0.01 +/- 0.03	pCi/l	0.21 +/- 0.38	pCi/l	0.01 +/- 0.25	pCi/l
Cesium 137.....	NR		NR		NR	
Tritium.....	-0.09 +/- 0.22	pCi/ml	0.00 +/- 0.22	pCi/ml	0.11 +/- 0.23	pCi/ml

Sample Information

RFW Batch ID:	1000-000-271
Customer ID:	G328611860
Matrix:	Water

Radio Chemistry

Gross Alpha.....	130 +/- 70	pCi/l
Gross Beta.....	200 +/- 30	pCi/l
Uranium 233, 234.....	13 +/- 3	pCi/l
Uranium 235.....	NR	
Uranium 238.....	10 +/- 2	pCi/l
Strontium 89, 90.....	NR	
Plutonium 239, 240.....	0.8 +/- 1.0	pCi/l
Americium 241.....	-0.06 +/- 0.75	pCi/l
Cesium 137.....	NR	
Tritium.....	0.10 +/- 0.20	pCi/ml

INORGANICS

**SOLAR POND CLOSURE CHARACTERIZATION REPORT
ROCKY FLATS PLANT, GOLDEN, COLORADO**

1 JULY 1988

APPENDICES

WESTON ANALYTICS: Inorganics

May 26, 1988

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List: Customer ID's: All

RFW Batch ID	Customer ID	Laboratory ID
0188-881-022	14-86-03-15-88	
0187-881-061	14-86-04-16-87	
0287-881-042	14-86-06-10-87	
0387-881-073	14-86-08-06-87	
0487-881-037	14-86-12-08-87	
0188-881-024	16-86-03-15-88	
0187-881-063	16-86-04-22-87	
0287-881-044	16-86-06-10-87	
0387-881-079	16-86-08-07-87	
0487-881-061	16-86-12-17-87	
0487-881-077	23-86-01-15-88	
0187-881-022	23-86-03-18-87	
0188-881-037	23-86-03-22-88	
0487-881-078	25-86-01-15-88	
0187-881-023	25-86-03-18-87	
0188-881-033	25-86-03-22-88	
0287-881-071	25-86-06-24-87	
0387-881-108	25-86-08-28-87	
0487-881-082	25-86DUP-01-15-88	
0187-881-027	27-86-03-19-87	
0188-881-034	27-86-03-22-88	
0187-881-058	27-86-04-15-87	
0287-881-072	27-86-06-24-87	
0387-881-120	27-86-09-23-87	
0487-881-055	27-86-12-16-87	
0487-881-079	30-86-01-15-88	
0188-881-032	30-86-03-17-88	
0187-881-031	30-86-03-23-87	
0187-881-057	30-86-04-15-87	
0287-881-074	30-86-06-24-87	
0387-881-122	30-86-09-24-87	
0188-881-035	32-86-03-22-88	
0187-881-032	32-86-03-23-87	
0187-881-056	32-86-04-15-87	
0287-881-080	32-86-06-29-87	
0387-881-119	32-86-09-23-87	
0487-881-056	32-86-12-16-87	
0188-881-027	39-87-03-17-88	
8609-049-028	G148609860	
8609-049-038	G148609862	
8609-049-043	G168609860	
8609-051-018	G308609860	
8611-014-043	G328611860	

SOLAR POND BEDROCK WELLS
INORGANIC
DATA SUMMARY REPORT

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RFW Batch Number: Client: ROCKWELL (ROCKY FLATS) Page: 1

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Sample Information

RFW Batch ID:	0188-881-022	0187-881-061	0287-881-042
Customer ID:	14-86-03-15-88	14-86-04-16-87	14-86-06-10-87
Matrix:	Water	Water	Water

Inorganics

CO ₃ ⁼ as CaCO ₃				NR	
HCO ₃ ⁻ as CaCO ₃	206	mg/l	340	mg/l	332 mg/l
Chloride.....	80.5	mg/l	79.2	mg/l	81.7 mg/l
Sulfate.....	480	mg/l	550	mg/l	570 mg/l
pH.....					
Fluoride.....					
Nitrate-Nitrite-Nitrogen.....	0.02 U	mg/l	0.60	mg/l	0.20 U mg/l
Sulfide.....					
Cyanide, Total.....			1.0 U	mg/l	1.0 U mg/l
Hexavalent Chromium (Cr+6).....					
Total Dissolved Solids.....	1367	mg/l	1303	mg/l	1331 mg/l
Total Suspended Solids.....					
% Solids.....					

Sample Information

RFW Batch ID:	0387-881-073	0487-881-037	0188-881-024
Customer ID:	14-86-08-06-87	14-86-12-08-87	14-86-03-15-88
Matrix:	Water	Water	Water

Inorganics

CO ₃ ⁼ as CaCO ₃				NR	
HCO ₃ ⁻ as CaCO ₃	347	mg/l	384	mg/l	210 mg/l
Chloride.....	83.2	mg/l	78.9	mg/l	208 mg/l
Sulfate.....	148	mg/l	562	mg/l	430 mg/l
pH.....					
Fluoride.....					
Nitrate-Nitrite-Nitrogen.....	0.20 U	mg/l	0.04	mg/l	0.06 mg/l
Sulfide.....					
Cyanide, Total.....	1 U	mg/l	NR		
Hexavalent Chromium (Cr+6).....					
Total Dissolved Solids.....	1292	mg/l	1358	mg/l	1462 mg/l
Total Suspended Solids.....					
% Solids.....					

SOLAR POND BEDROCK WELLS
INORGANIC
DATA SUMMARY REPORT

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

Page: 2

Sample Information

RFW Batch ID:	0187-881-063	0287-881-044	0387-881-079
Customer ID:	16-86-04-22-87	16-86-06-10-87	16-86-08-07-87
Matrix:	Water	Water	Water

Inorganics

CO ₃ ²⁻ as CaCO ₃		NR				
HCO ₃ ⁻ as CaCO ₃	368	mg/l	348	mg/l	364	mg/l
Chloride.....	242	mg/l	202	mg/l	201	mg/l
Sulfate.....	179	mg/l	175	mg/l	495	mg/l
pH.....						
Fluoride.....						
Nitrate-Nitrite-Nitrogen.....	0.60	mg/l	0.20 U	mg/l	0.29	mg/l
Sulfide.....						
Cyanide, Total.....	1.0 U	mg/l	1.0 U	mg/l	1 U	mg/l
Hexavalent Chromium (Cr+6).....						
Total Dissolved Solids.....	2489	mg/l	1470	mg/l	1442	mg/l
Total Suspended Solids.....						
% Solids.....						

Sample Information

RFW Batch ID:	0487-881-061	0487-881-077	0187-881-022
Customer ID:	16-86-12-17-87	23-86-01-15-88	23-86-03-18-87
Matrix:	Water	Water	Water

Inorganics

CO ₃ ²⁻ as CaCO ₃	NR	NR		
HCO ₃ ⁻ as CaCO ₃	381	mg/l	190	mg/l
Chloride.....	180	mg/l	172	mg/l
Sulfate.....	420	mg/l	321	mg/l
pH.....				
Fluoride.....				
Nitrate-Nitrite-Nitrogen.....	0.09	mg/l	0.02 U	mg/l
Sulfide.....				
Cyanide, Total.....	NR		NR	
Hexavalent Chromium (Cr+6).....				
Total Dissolved Solids.....	1459	mg/l	962	mg/l
Total Suspended Solids.....				
% Solids.....				

SOLAR POND BEDROCK WELLS
INORGANIC
DATA SUMMARY REPORT

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

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Sample Information

RFW Batch ID:	0188-881-037	0487-881-078	0187-881-023
Customer ID:	23-86-03-22-88	25-86-01-15-88	25-86-03-18-87
Matrix:	Water	Water	Water

Inorganics

CO ₃ ²⁻ as CaCO ₃			NR			
HCO ₃ ⁻ as CaCO ₃	114	mg/l	437	mg/l	410	mg/l
Chloride.....	172	mg/l	44.9	mg/l	52.5	mg/l
Sulfate.....	290	mg/l	1030	mg/l	1100	mg/l
pH.....						
Fluoride.....						
Nitrate-Nitrite-Nitrogen.....	0.07	mg/l	0.10	mg/l	0.28	mg/l
Sulfide.....						
Cyanide, Total.....			NR		1.0	U mg/l
Hexavalent Chromium (Cr+6).....						
Total Dissolved Solids.....	1040	mg/l	2337	mg/l	2322	mg/l
Total Suspended Solids.....						
% Solids.....						

Sample Information

RFW Batch ID:	0188-881-033	0287-881-071	0387-881-108
Customer ID:	25-86-03-22-88	25-86-06-24-87	25-86-08-28-87
Matrix:	Water	Water	Water

Inorganics

CO ₃ ²⁻ as CaCO ₃			NR			
HCO ₃ ⁻ as CaCO ₃	104	mg/l	390	mg/l	407	mg/l
Chloride.....	43.2	mg/l	40.5	mg/l	42.2	mg/l
Sulfate.....	1050	mg/l	400	mg/l	1060	mg/l
pH.....						
Fluoride.....						
Nitrate-Nitrite-Nitrogen.....	0.12	mg/l	0.20	U mg/l	0.45	mg/l
Sulfide.....						
Cyanide, Total.....			1.0	U mg/l	1	U mg/l
Hexavalent Chromium (Cr+6).....						
Total Dissolved Solids.....	2293	mg/l	2242	mg/l	2265	mg/l
Total Suspended Solids.....						
% Solids.....						

SOLAR POND BEDROCK WELLS
INORGANIC
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RFW Batch Number: Client: ROCKWELL (ROCKY FLATS) Page: 4

Sample Information

RFW Batch ID:	0487-881-082	0187-881-027	0188-881-034
Customer ID:	25-860UP-01-15-88	27-86-03-19-87	27-86-03-22-88
Matrix:	Water	Water	Water

Inorganics

CO ₃ = as CaCO ₃	NR				
HCO ₃ - as CaCO ₃	435	mg/l	180	mg/l	102 mg/l
Chloride.....	43.6	mg/l	144	mg/l	163 mg/l
Sulfate.....	1120	mg/l	245	mg/l	220 mg/l
pH.....					
Fluoride.....					
Nitrate-Nitrite-Nitrogen.....	0.10	mg/l	42.0	mg/l	0.43 mg/l
Sulfide.....					
Cyanide, Total.....	NR		1.0 U	mg/l	
Hexavalent Chromium (Cr+6).....					
Total Dissolved Solids.....	2297	mg/l	793	mg/l	818 mg/l
Total Suspended Solids.....					
% Solids.....					

Sample Information

RFW Batch ID:	0187-881-058	0287-881-072	0387-881-120
Customer ID:	27-86-04-15-87	27-86-06-24-87	27-86-09-23-87
Matrix:	Water	Water	Water

Inorganics

CO ₃ = as CaCO ₃	NR				
HCO ₃ - as CaCO ₃	161	mg/l	168	mg/l	186 mg/l
Chloride.....	167	mg/l	160	mg/l	166.8 mg/l
Sulfate.....	260	mg/l	188	mg/l	340 mg/l
pH.....					
Fluoride.....					
Nitrate-Nitrite-Nitrogen.....	0.20 U	mg/l	0.20 U	mg/l	0.20 U mg/l
Sulfide.....					
Cyanide, Total.....	1.0 U	mg/l	1.0 U	mg/l	1 U mg/l
Hexavalent Chromium (Cr+6).....					
Total Dissolved Solids.....	756	mg/l	812	mg/l	842 mg/l
Total Suspended Solids.....					
% Solids.....					

SOLAR POND BEDROCK WELLS
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===== RFW Batch Number: Client: ROCKWELL (ROCKY FLATS) =====

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Sample Information

RFW Batch ID:	0487-881-055	0487-881-079	0188-881-032
Customer ID:	27-86-12-16-87	30-86-01-15-88	30-86-03-17-88
Matrix:	Water	Water	Water

Inorganics

CO ₃ ²⁻ as CaCO ₃	NR	NR			
HCO ₃ ⁻ as CaCO ₃	184.2	mg/l	298	mg/l	180 mg/l
Chloride.....	141	mg/l	276	mg/l	210 mg/l
Sulfate.....	219	mg/l	282	mg/l	205 mg/l
pH.....					
Fluoride.....					
Nitrate-Nitrite-Nitrogen.....	0.40	mg/l	1457	mg/l	1410 mg/l
Sulfide.....					
Cyanide, Total.....	NR		NR		
Hexavalent Chromium (Cr+6).....					
Total Dissolved Solids.....	823	mg/l	13682	mg/l	10571 mg/l
Total Suspended Solids.....					
% Solids.....					

Sample Information

RFW Batch ID:	0187-881-031	0187-881-057	0287-881-074
Customer ID:	30-86-03-23-87	30-86-04-15-87	30-86-06-24-87
Matrix:	Water	Water	Water

Inorganics

CO ₃ ²⁻ as CaCO ₃	NR				
HCO ₃ ⁻ as CaCO ₃	334	mg/l	221	mg/l	297 mg/l
Chloride.....	179	mg/l	215	mg/l	288 mg/l
Sulfate.....	215	mg/l	340	mg/l	280 mg/l
pH.....					
Fluoride.....					
Nitrate-Nitrite-Nitrogen.....	1440	mg/l	8.40	mg/l	2040 mg/l
Sulfide.....					
Cyanide, Total.....	1.0 U	mg/l	1.0	mg/l	1.0 U mg/l
Hexavalent Chromium (Cr+6).....					
Total Dissolved Solids.....	8085	mg/l	9430	mg/l	13740 mg/l
Total Suspended Solids.....					
% Solids.....					

SOLAR POND BEDROCK WELLS
INORGANIC
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===== RFW Batch Number: Client: ROCKWELL (ROCKY FLATS) Page: 6 =====

Sample Information

RFW-Batch ID:	0387-881-122	0188-881-035	0187-881-032
Customer ID:	30-86-09-24-87	32-86-03-22-88	32-86-03-23-87
Matrix:	Water	Water	Water

Inorganics

CO ₃ = as CaCO ₃						
HCO ₃ - as CaCO ₃	301	mg/l	104	mg/l	223	mg/l
Chloride.....	318	mg/l	121	mg/l	107	mg/l
Sulfate.....	301	mg/l	65.0	mg/l	92.0	mg/l
pH.....						
Fluoride.....						
Nitrate-Nitrite-Nitrogen.....	1520	mg/l	0.04	mg/l	6.90	mg/l
Sulfide.....						
Cyanide, Total.....	1 U	mg/l			1.0 U	mg/l
Hexavalent Chromium (Cr+6).....						
Total Dissolved Solids.....	14019	mg/l	501	mg/l	523	mg/l
Total Suspended Solids.....						
% Solids.....						

Sample Information

RFW Batch ID:	0187-881-056	0287-881-080	0387-881-119
Customer ID:	32-86-04-15-87	32-86-06-29-87	32-86-09-23-87
Matrix:	Water	Water	Water

Inorganics

CO ₃ = as CaCO ₃			NR			
HCO ₃ - as CaCO ₃	195	mg/l	175	mg/l	187	mg/l
Chloride.....	107	mg/l	146	mg/l	121.7	mg/l
Sulfate.....	92.0	mg/l	57.0	mg/l	66	mg/l
pH.....						
Fluoride.....						
Nitrate-Nitrite-Nitrogen.....	1.88	mg/l	0.40	mg/l	0.46	mg/l
Sulfide.....						
Cyanide, Total.....	1.0 U	mg/l	1.0 U	mg/l	1 U	mg/l
Hexavalent Chromium (Cr+6).....						
Total Dissolved Solids.....	575	mg/l	512	mg/l	547	mg/l
Total Suspended Solids.....						
% Solids.....						

SOLAR POND BEDROCK WELLS
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RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

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Sample Information

RFW Batch ID:	0487-881-056	0188-881-027	8609-049-028
Customer ID:	32-86-12-16-87	39-87-03-17-88	G148609860
Matrix:	Water	Water	Water

Inorganics

CO ₃ ²⁻ as CaCO ₃	NR				
HCO ₃ ⁻ as CaCO ₃	198.1	mg/l	46.3	mg/l	
Chloride.....	109	mg/l	6.98	mg/l	160 mg/l
Sulfate.....	75.0	mg/l	134	mg/l	310 mg/l
pH.....					
Fluoride.....					
Nitrate-Nitrite-Nitrogen.....	0.19	mg/l	0.10	mg/l	5.0 U mg/l
Sulfide.....					
Cyanide, Total.....	NR				0.005 U mg/l
Hexavalent Chromium (Cr+6).....					10 U mg/l
Total Dissolved Solids.....	507	mg/l	296	mg/l	1200 mg/l
Total Suspended Solids.....					
% Solids.....					

Sample Information

RFW Batch ID:	8609-049-038	8609-049-043	8609-051-018
Customer ID:	G148609862	G168609860	G308609860
Matrix:	Water	Water	Water

Inorganics

CO ₃ ²⁻ as CaCO ₃					
HCO ₃ ⁻ as CaCO ₃					
Chloride.....	150	mg/l	220	mg/l	430 mg/l
Sulfate.....	490	mg/l	510	mg/l	100 mg/l
pH.....					
Fluoride.....					
Nitrate-Nitrite-Nitrogen.....	5.0 U mg/l		5.0 U mg/l		9640 mg/l
Sulfide.....					
Cyanide, Total.....	0.005 U mg/l		0.005 U mg/l		0.005 U mg/l
Hexavalent Chromium (Cr+6).....	10 U mg/l		10 U mg/l		10 U mg/l
Total Dissolved Solids.....	1100	mg/l	1400	mg/l	20000 mg/l
Total Suspended Solids.....					
% Solids.....					

SOLAR POND BEDROCK WELLS
INORGANIC
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RFW Batch Number: Client: ROCKWELL (ROCKY FLATS) Page: 8

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Sample Information

RFW Batch ID: 8611-014-043
Customer ID: G328611860
Matrix: Water

Inorganics

CO ₃ = as CaCO ₃		
HCO ₃ - as CaCO ₃		
Chloride.....	122	mg/l
Sulfate.....	101	mg/l
pH.....		
Fluoride.....		
Nitrate-Nitrite-Nitrogen.....		
Sulfide.....		
Cyanide, Total.....	0.005 U	mg/l
Hexavalent Chromium (Cr+6).....		
Total Dissolved Solids.....	616	mg/l
Total Suspended Solids.....		
% Solids.....		

METALS

SOLAR POND CLOSURE CHARACTERIZATION REPORT
ROCKY FLATS PLANT, GOLDEN, COLORADO

1 JULY 1988

APPENDICES

List: Customer ID's: All

RFW Batch ID	Customer ID	Laboratory ID
0188-881-022	14-86-03-15-88	
0187-881-059	14-86-04-16-87	
0287-881-039	14-86-06-11-87	
0387-881-074	14-86-08-06-87	
0487-881-038	14-86-12-09-87	
0188-881-024	16-86-03-15-88	
0187-881-062	16-86-04-22-87	
0287-881-041	16-86-06-11-87	
0387-881-080	16-86-08-07-87	
0487-881-063	16-86-12-18-87	
0487-881-119	23-86-01-16-88	
0188-881-037	23-88-03-22-88	
0487-881-120	25-86-01-16-88	
0187-881-021	25-86-03-18-87	
0188-881-033	25-86-03-22-88	
0287-881-066	25-86-06-25-87	
0387-881-114	25-86-08-28-87	
0487-881-121	25-86D-01-16-88	
0187-881-026	27-86-03-19-87	
0188-881-034	27-86-03-22-88	
0187-881-056	27-86-04-15-87	
0287-881-071	27-86-06-25-87	
0387-881-127	27-86-09-23-87	
0487-881-057	27-86-12-17-87	
0487-881-122	30-86-01-16-88	
0188-881-032	30-86-03-17-88	
0187-881-030	30-86-03-23-87	
0187-881-055	30-86-04-15-87	
0287-881-078	30-86-06-25-87	
0387-881-129	30-86-09-24-87	
0487-881-123	30-86D-01-16-88	
0188-881-035	32-86-03-22-88	
0187-881-031	32-86-03-23-87	
0187-881-054	32-86-04-15-87	
0287-881-073	32-86-06-30-87	
0387-881-126	32-86-09-23-87	
0487-881-058	32-86-12-17-87	
0188-881-027	39-87-03-17-88	
8609-049-027	G148609860	
8609-049-037	G148609862	
8609-049-042	G168609860	
8611-014-032	G258611860	
8609-051-017	G308609860	
8611-014-042	G328611860	

SOLAR POND BEDROCK WELLS
METALS
INORGANICS DATA SUMMARY REPORT

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

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Sample Information

RFW Batch ID:	0188-881-022	0187-881-059	0287-881-039	0387-881-074
Customer ID:	14-86-03-15-88	14-86-04-16-87	14-86-06-11-87	14-86-08-06-87
Matrix:	Water	Water	Water	Water
Units:	MG/L	MG/L	MG/L	MG/L

Metals

Silver (Ag), total.....	0.0076 U	0.0076 U	0.0076 U	0.0076 U
Aluminum (Al), total.....	0.0600	0.1303	0.0290 U	0.0290 U
Arsenic (As), total.....	0.005 U	0.0100 U	0.01 U	0.005 U
Barium (Ba), total.....	0.0432	0.0718	0.0352	0.0678
Beryllium (Be), total.....	0.005 U	0.005 U	0.005 U	0.005 U
Calcium (Ca), total.....	154.9583	141.4104	155.3028	140.4949
Cadmium (Cd), total.....	0.001 U	0.0050 U	0.005 U	0.0005 J
Cobalt (Co), total.....	0.0220 U	0.0220 U	0.0220 U	0.0220 U
Chromium (Cr), total.....	0.0204	0.0100 U	0.0100 U	0.0100 U
Cesium (Cs), total.....	0.02 U	0.2 U	0.2 U	0.02 U
Copper (Cu), total.....	0.0113	0.0063 U	0.0063 U	0.0063 U
Iron (Fe), total.....	0.1385	0.0069 U	0.0069 U	0.0069 U
Mercury (Hg), total.....	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Potassium (K), total.....	5.3	7.0	7.6	7.7
Lithium (Li), total.....	0.09 J			
Magnesium (Mg), total.....	47.3450	41.1586	41.0748	41.2658
Manganese (Mn), total.....	0.1393	0.1693	0.1361	0.1968
Molybdenum(Mo), total.....	0.220 U	0.0220 U	0.0220 U	0.0220 U
Sodium (Na), total.....	266.6864	251.2908	250.3055	253.3903
Nickel (Ni), total.....	0.0370 U	0.0370 U	0.0476	0.0370 U
Lead (Pb), total.....	0.005 U	0.0050 U	0.005 U	0.005 U
Antimony (Sb), total.....	0.02 U	0.06 U	0.06 U	0.02 U
Selenium (Se), total.....	0.005 U	0.005 U	0.005 U	0.004 J
Strontium (Sr), total.....	2.4226	2.0499	2.1035	2.0727
Thallium (Tl), total.....	0.01 U	0.0100 U	0.01 U	0.01 U
Vanadium (V), total.....	0.0240 U	0.0240 U	0.0240 U	0.0240 U
Zinc (Zn), total.....	0.0321	0.09	0.1309	0.0226

SOLAR POND BEDROCK WELLS
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INORGANICS DATA SUMMARY REPORT

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

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Sample Information

RFW Batch ID:	0487-881-038	0188-881-024	0187-881-062	0287-881-041
Customer ID:	14-86-12-09-87	16-86-03-15-88	16-86-04-22-87	16-86-06-11-87
Matrix:	Water	Water	Water	Water
Units:	MG/L	MG/L	MG/L	MG/L

Metals

Silver (Ag), total.....	0.0076 U	0.0076 U	0.0076 U	0.0076 U
Aluminum (Al), total.....	0.0290 U	0.1211	0.0290 U	0.0290 U
Arsenic (As), total.....	0.005 U	0.002 J	0.01 U	0.01 U
Barium (Ba), total.....	0.0350	0.0989	0.0516	0.0296
Beryllium (Be), total.....	0.005 U	0.002 J	0.005 U	0.005 U
Calcium (Ca), total.....	138.6145	421.0941	169.2706	166.9031
Cadmium (Cd), total.....	0.001 U	0.001 U	0.005 U	0.005 U
Cobalt (Co), total.....	0.0220 U	0.0220 U	0.0220 U	0.0220 U
Chromium (Cr), total.....	0.0100 U	0.0452	0.0100 U	0.0100 U
Cesium (Cs), total.....	0.02 U	0.02 U	0.2 U	0.2 U
Copper (Cu), total.....	0.0134	0.0510	0.0452	0.0725
Iron (Fe), total.....	0.0080	0.2093	0.0069 U	0.0069 U
Mercury (Hg), total.....	0.0001 J	0.0002 U	0.0002 U	0.0002 U
Potassium (K), total.....	8.2	9.9	7.0	7.7
Lithium (Li), total.....	0.1	0.11		
Magnesium (Mg), total.....	39.3763	130.1180	49.2672	47.9527
Manganese (Mn), total.....	0.01344	0.3758	0.3438	0.2145
Molybdenum(Mo), total.....	0.0220 U	0.0220 U	0.0220 U	0.0220 U
Sodium (Na), total.....	237.7085	706.6186	291.2435	271.1135
Nickel (Ni), total.....	0.0370 U	0.0512	0.1672	0.2061
Lead (Pb), total.....	0.005 U	0.005 U	0.005 U	0.006
Antimony (Sb), total.....	0.020 U	0.015 J	0.0600 U	0.06 U
Selenium (Se), total.....	0.002 J	0.003 J	0.0050 U	0.005 U
Strontium (Sr), total.....	2.0996	6.1678	2.2263	2.1208
Thallium (Tl), total.....	0.01 U	0.01 U	0.01 U	0.01 U
Vanadium (V), total.....	0.0240 U	0.0240 U	0.0240 U	0.0240 U
Zinc (Zn), total.....	0.0226	0.1149	0.02	0.0492

SOLAR POND BEDROCK WELLS
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INORGANICS DATA SUMMARY REPORT

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

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Sample Information

RFW Batch ID:	0387-881-080	0487-881-063	0487-881-119	0188-881-037
Customer ID:	16-86-08-07-87	16-86-12-18-87	23-86-01-16-88	23-88-03-22-88
Matrix:	Water	Water	Water	Water
Units:	MG/L	MG/L	MG/L	MG/L

Metals

Silver (Ag), total.....	0.0076 U	0.0076 U	0.0076 U	0.0076 U
Aluminum (Al), total.....	0.0290 U	0.0384	0.0551	0.0773
Arsenic (As), total.....	0.005 U	0.005 U	0.005	0.005 U
Barium (Ba), total.....	0.0418	0.0315	0.0328	0.0308
Beryllium (Be), total.....	0.005 U	0.003 J	0.005 U	0.005 U
Calcium (Ca), total.....	161.1283	148.0253	96.4941	98.7690
Cadmium (Cd), total.....	0.0006 J	0.001 U	0.001 U	0.001 U
Cobalt (Co), total.....	0.0220 U	0.0220 U	0.0220 U	0.0220 U
Chromium (Cr), total.....	0.0198	0.0120	0.0100 U	0.0146
Cesium (Cs), total.....	0.02 U	0.02 U	0.02 U	0.02 U
Copper (Cu), total.....	0.0545	0.0203	0.0287	0.0101
Iron (Fe), total.....	0.0125	0.0169	0.0266	0.1262
Mercury (Hg), total.....	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Potassium (K), total.....	8.0	8.7	14.0	11
Lithium (Li), total.....		0.12	0.08 J	0.07 J
Magnesium (Mg), total.....	46.9435	45.2821	24.7129	26.1184
Manganese (Mn), total.....	0.1336	0.1375	0.1107	0.1349
Molybdenum(Mo), total.....	0.0220 U	0.0220 U	0.0200 U	0.0301
Sodium (Na), total.....	287.2474	272.4460	182.1679	180.2115
Nickel (Ni), total.....	0.0891	0.0464	0.0370 U	0.0370 U
Lead (Pb), total.....	0.005 U	0.005 U	0.003 J	0.005 U
Antimony (Sb), total.....	0.02 U	0.02 U	0.02 U	0.02 U
Selenium (Se), total.....	0.004 J	0.005	0.007	0.005 U
Strontium (Sr), total.....	2.1011	2.0335	1.1892	1.2860
Thallium (Tl), total.....	0.01 U	0.01 U	0.01 U	0.01 U
Vanadium (V), total.....	0.0240 U	0.0240 U	0.0288	0.0240 U
Zinc (Zn), total.....	0.0578	0.0295	0.0200 U	0.1830

SOLAR POND BEDROCK WELLS
METALS
INORGANICS DATA SUMMARY REPORT

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

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Sample Information

RFW Batch ID:	0487-881-120	0187-881-021	0188-881-033	0287-881-066
Customer ID:	25-86-01-16-88	25-86-03-18-87	25-86-03-22-88	25-86-06-25-87
Matrix:	Water	Water	Water	Water
Units:	MG/L	MG/L	MG/L	MG/L

Metals

Silver (Ag), total.....	0.0333	0.0076 U	0.0076 U	0.0076 U
Aluminum (Al), total.....	0.0675	0.0290 U	0.0446	0.0290 U
Arsenic (As), total.....	0.019	0.01 U	0.005 U	0.01 U
Barium (Ba), total.....	0.0214	0.0210	0.0223	0.0301
Beryllium (Be), total.....	0.005 U	0.005 U	0.005 U	0.005 U
Calcium (Ca), total.....	233.6315	192.4488	206.6097	268.7477
Cadmium (Cd), total.....	0.001 U	0.005 U	0.001 U	0.005 U
Cobalt (Co), total.....	0.0220 U	0.0220 U	0.0220 U	0.0220 U
Chromium (Cr), total.....	0.0378	0.0100 U	0.0161	0.0100 U
Cesium (Cs), total.....	0.02 U	0.2 U	0.02 U	0.2 U
Copper (Cu), total.....	0.0307	0.0063 U	0.0108	0.0063 U
Iron (Fe), total.....	0.0226	0.0069 U	0.0785	0.0069 U
Mercury (Hg), total.....	0.0002 U	0.0002 U	0.0002 U	0.0003
Potassium (K), total.....	15.5	25.0	15	17
Lithium (Li), total.....	0.2		0.18	
Magnesium (Mg), total.....	100.3111	76.7010	85.1800	107.3566
Manganese (Mn), total.....	0.1493	0.2537	0.1504	0.4087
Molybdenum(Mo), total.....	0.0515	0.0404	0.0220 U	0.0378
Sodium (Na), total.....	282.6460	247.4230	259.1834	306.8792
Nickel (Ni), total.....	0.0757	0.1249	0.0370 U	0.2102
Lead (Pb), total.....	0.005 U	0.005 U	0.005 U	0.005 U
Antimony (Sb), total.....	0.02 U	0.06 U	0.02 U	0.06 U
Selenium (Se), total.....	0.002 J	0.005 U	0.005 U	0.005 U
Strontium (Sr), total.....	3.1450	2.5688	3.0430	3.2156
Thallium (Tl), total.....	0.01 U	0.01 U	0.01 U	0.01 U
Vanadium (V), total.....	0.0240 U	0.0240 U	0.0240 U	0.0240 U
Zinc (Zn), total.....	0.0232	0.07	0.0635	0.0323

SOLAR POND BEDROCK WELLS
METALS
INORGANICS DATA SUMMARY REPORT

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

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Sample Information

RFW Batch ID:	0387-881-114	0487-881-121	0187-881-026	0188-881-034
Customer ID:	25-86-08-28-87	25-860-01-16-88	27-86-03-19-87	27-86-03-22-88
Matrix:	Water	Water	Water	Water
Units:	MG/L	MG/L	MG/L	MG/L

Metals

Silver (Ag), total.....	0.0076 U	0.0076 U	0.0076 U	0.0076 U
Aluminum (Al), total.....	0.0290 U	0.0820	0.0290 U	0.0362
Arsenic (As), total.....	0.005 U	0.021	0.01 U	0.005 U
Barium (Ba), total.....	0.0412	0.0276	0.0213	0.0268
Beryllium (Be), total.....	0.005 U	0.005 U	0.005 U	0.005 U
Calcium (Ca), total.....	209.3199	240.9251	40.8094	44.4459
Cadmium (Cd), total.....	0.0003 J	0.001 U	0.005 U	0.001 U
Cobalt (Co), total.....	0.0220 U	0.0220 U	0.0220 U	0.0220 U
Chromium (Cr), total.....	0.0158	0.0139	0.0100 U	0.0100 U
Cesium (Cs), total.....	0.02 U	0.02 U	0.2 U	0.02 U
Copper (Cu), total.....	0.0082	0.0284	0.0063 U	0.0477
Iron (Fe), total.....	0.0069 U	0.0514	0.0069 U	0.0806
Mercury (Hg), total.....	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Potassium (K), total.....	18.0	15.3	9.0	1.0
Lithium (Li), total.....		0.3		0.06 J
Magnesium (Mg), total.....	101.2028	100.4831	14.0300	12.7476
Manganese (Mn), total.....	0.1711	0.1532	0.0727	0.0841
Molybdenum(Mo), total.....	0.0226	0.0227	0.0532	0.0220 U
Sodium (Na), total.....	280.0023	293.8468	259.9004	201.6286
Nickel (Ni), total.....	0.1005	0.0564	0.1271	0.0415
Lead (Pb), total.....	0.005 U	0.005 U	0.005 U	0.005 U
Antimony (Sb), total.....	0.02 U	0.02 U	0.0600 U	0.02 U
Selenium (Se), total.....	0.005 U	0.005 U	0.0050 U	0.005 U
Strontium (Sr), total.....	3.1179	3.1630	0.6022	0.6457
Thallium (Tl), total.....	0.01 U	0.01 U	0.01 U	0.01 U
Vanadium (V), total.....	0.0240 U	0.0240 U	0.0240 U	0.0240 U
Zinc (Zn), total.....	0.0237	0.0315	0.02 U	0.0507

SOLAR POND BEDROCK WELLS
METALS
INORGANICS DATA SUMMARY REPORT

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RFW Batch Number: Client: ROCKWELL (ROCKY FLATS)

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Sample Information

RFW Batch ID:	0187-881-056	0287-881-071	0387-881-127	0487-881-057
Customer ID:	27-86-04-15-87	27-86-06-25-87	27-86-09-23-87	27-86-12-17-87
Matrix:	Water	Water	Water	Water
Units:	MG/L	MG/L	MG/L	MG/L

Metals

Silver (Ag), total.....	0.0076 U	0.0089	0.0076 U	0.0076 U
Aluminum (Al), total.....	0.0429	0.0290 U	0.0321	0.0596
Arsenic (As), total.....	0.0100 U	0.01 U	0.005 U	0.005 U
Barium (Ba), total.....	0.0313	0.0279	0.0574	0.0258
Beryllium (Be), total.....	0.005 U	0.005 U	0.005 U	0.005 U
Calcium (Ca), total.....	51.6383	50.2646	41.6908	43.9156
Cadmium (Cd), total.....	0.0050 U	0.005 U	0.001 U	0.001 U
Cobalt (Co), total.....	0.0220 U	0.0220 U	0.0220 U	0.0220 U
Chromium (Cr), total.....	0.0100 U	0.0100 U	0.0100 U	0.0100 U
Cesium (Cs), total.....	0.2 U	0.2 U	0.02 U	0.02 U
Copper (Cu), total.....	0.0067	0.0067	0.0315	0.0374
Iron (Fe), total.....	0.0295	0.0069 U	0.0194	0.0459
Mercury (Hg), total.....	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Potassium (K), total.....	7.4	5.6	9.1	5.9
Lithium (Li), total.....				0.1 U
Magnesium (Mg), total.....	16.3832	13.7816	13.3113	12.6190
Manganese (Mn), total.....	0.1074	0.0758	0.0627	0.0775
Molybdenum(Mo), total.....	0.0295	0.0336	0.0220 U	0.0246
Sodium (Na), total.....	247.4084	219.6025	200.8369	205.7062
Nickel (Ni), total.....	0.1869	0.1158	0.0993	0.0622
Lead (Pb), total.....	0.0050 U	0.016	0.005 U	0.002 U
Antimony (Sb), total.....	0.06 U	0.06 U	0.02 U	0.02 U
Selenium (Se), total.....	0.005 U	0.005 U	0.005	0.006
Strontium (Sr), total.....	0.6644	0.6149	0.6258	0.6214
Thallium (Tl), total.....	0.0100 U	0.01 U	0.01 U	0.01 U
Vanadium (V), total.....	0.0240 U	0.0300	0.0240 U	0.0240 U
Zinc (Zn), total.....	0.3	0.0200 U	0.0200 U	0.0218

SOLAR POND BEDROCK WELLS
METALS
INORGANICS DATA SUMMARY REPORT

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

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Sample Information

RFW Batch ID:	0487-881-122	0188-881-032	0187-881-030	0187-881-055
Customer ID:	30-86-01-16-88	30-86-03-17-88	30-86-03-23-87	30-86-04-15-87
Matrix:	Water	Water	Water	Water
Units:	MG/L	MG/L	MG/L	MG/L

Metals

Silver (Ag), total.....	0.0076 U	0.0076 U	0.0102	0.0130
Aluminum (Al), total.....	0.0952	0.0311	0.0290 U	0.0290 U
Arsenic (As), total.....	0.011	0.002 J	0.01 U	0.0100 U
Barium (Ba), total.....	0.2230	0.2364	0.2099	0.3108
Beryllium (Be), total.....	0.005 U	0.005 U	0.005 U	0.005 U
Calcium (Ca), total.....	1130.4343	845.0279	681.5574	1270.2438
Cadmium (Cd), total.....	0.001 U	0.001 U	0.005 U	0.0050 U
Cobalt (Co), total.....	0.0220 U	0.0220 U	0.0220 U	0.0220 U
Chromium (Cr), total.....	0.0122	0.0188	0.0100 U	0.0100 U
Cesium (Cs), total.....	0.02 U	0.02 U	0.2 U	0.2 U
Copper (Cu), total.....	0.0375	0.0063 U	0.0063 U	0.0063 U
Iron (Fe), total.....	0.0262	0.0834	0.0069 U	0.0069 U
Mercury (Hg), total.....	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Potassium (K), total.....	146.00	146	132.0	82.0
Lithium (Li), total.....	1.2	0.82		
Magnesium (Mg), total.....	274.2444	229.4845	135.9616	215.1646
Manganese (Mn), total.....	0.0224	0.0051 U	0.0542	0.0789
Molybdenum(Mo), total.....	0.0220 U	0.0220 U	0.0220 U	0.0220 U
Sodium (Na), total.....	1390.1968	1263.3406	1062.7017	1145.1616
Nickel (Ni), total.....	0.0689	0.0433	0.0370 U	0.0370 U
Lead (Pb), total.....	0.005 U	0.005 U	0.005 U	0.0050 U
Antimony (Sb), total.....	0.02 U	0.02 U	0.0600 U	0.06 U
Selenium (Se), total.....	0.017	0.005	0.0050 U	0.007
Strontium (Sr), total.....	10.2243	7.7581	5.6997	11.7885
Thallium (Tl), total.....	0.01 U	0.01 U	0.01 U	0.0100 U
Vanadium (V), total.....	0.0240 U	0.0240 U	0.0240 U	0.0240 U
Zinc (Zn), total.....	0.0267	0.0360	0.03	0.3

SOLAR POND BEDROCK WELLS
METALS
INORGANICS DATA SUMMARY REPORT

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RFW Batch Number: Client: ROCKWELL (ROCKY FLATS) Page: 8

Sample Information

RFW Batch ID:	0287-881-078	0387-881-129	0487-881-123	0188-881-035
Customer ID:	30-86-06-25-87	30-86-09-24-87	30-860-01-16-88	32-86-03-22-88
Matrix:	Water	Water	Water	Water
Units:	MG/L	MG/L	MG/L	MG/L

Metals

Silver (Ag), total.....	0.0076 U	0.0076 U	0.0076 U	0.0076 U
Aluminum (Al), total.....	0.0290 U	0.0290 U	0.0820	0.0560
Arsenic (As), total.....	0.01 U	0.002 U		0.005 U
Barium (Ba), total.....	0.3155	0.3571	0.2120	0.1159
Beryllium (Be), total.....	0.005 U	0.005 U		0.005 U
Calcium (Ca), total.....	1692.0455	1172.4248	1031.3494	37.0507
Cadmium (Cd), total.....	0.005 U	0.001 U		0.001 U
Cobalt (Co), total.....	0.0220 U	0.0220 U	0.0220 U	0.0220 U
Chromium (Cr), total.....	0.0100 U	0.0169	0.0100 U	0.0100 U
Cesium (Cs), total.....	0.2 U	0.02 U		0.02 U
Copper (Cu), total.....	0.0063 U	0.0064	0.0250	0.0063 U
Iron (Fe), total.....	0.0069 U	0.0069 U	0.0069 U	0.1414
Mercury (Hg), total.....	0.0002 U	0.0002 U		0.0002 U
Potassium (K), total.....	74	125		5.4
Lithium (Li), total.....				0.1 U
Magnesium (Mg), total.....	308.1397	309.5655	264.8040	9.5568
Manganese (Mn), total.....	0.0703	0.0648	0.0232	0.1557
Molybdenum(Mo), total.....	0.0220 U	0.0220 U	0.0220 U	0.0220 U
Sodium (Na), total.....	1407.9877	1284.9274	1266.8781	121.7173
Nickel (Ni), total.....	0.0370 U	0.0370 U	0.0580	0.0370 U
Lead (Pb), total.....	0.006	0.005 U		0.005 U
Antimony (Sb), total.....	0.06 U	0.02 U		0.02 U
Selenium (Se), total.....	0.005 U	0.011		0.005 U
Strontium (Sr), total.....	14.2163	12.2595	9.6899	0.4892
Thallium (Tl), total.....	0.01 U	0.01 U		0.01 U
Vanadium (V), total.....	0.0240 U	0.0240 U	0.0240 U	0.0240 U
Zinc (Zn), total.....	0.0200 U	0.0265	0.0211	0.2735

SOLAR POND BEDROCK WELLS
METALS
INORGANICS DATA SUMMARY REPORT

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

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Sample Information

RFW Batch ID:	0187-881-031	0187-881-054	0287-881-073	0387-881-126
Customer ID:	32-86-03-23-87	32-86-04-15-87	32-86-06-30-87	32-86-09-23-87
Matrix:	Water	Water	Water	Water
Units:	MG/L	MG/L	MG/L	MG/L

Metals

Silver (Ag), total.....	0.0076 U	0.0076 U	0.0076 U	0.0076 U
Aluminum (Al), total.....	0.0290 U	0.0897	0.0290 U	0.0402
Arsenic (As), total.....	0.01 U	0.0100 U	0.01 U	0.005 U
Barium (Ba), total.....	0.0385	0.1404	0.1323	0.1358
Beryllium (Be), total.....	0.005 U	0.005 U	0.005 U	0.005 U
Calcium (Ca), total.....	52.4600	52.2507	62.1752	37.7962
Cadmium (Cd), total.....	0.005 U	0.0050 U	0.005 U	0.001 U
Cobalt (Co), total.....	0.0220 U	0.0220 U	0.0220 U	0.0220 U
Chromium (Cr), total.....	0.0100 U	0.0100 U	0.0100 U	0.0100 U
Cesium (Cs), total.....	0.2 U	0.2 U	0.2 U	0.02 U
Copper (Cu), total.....	0.0104	0.0063 U	0.0063 U	0.0154
Iron (Fe), total.....	0.0069 U	0.0069 U	0.0069 U	0.0250
Mercury (Hg), total.....	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Potassium (K), total.....	10.0	5.0	5.0 U	7.0
Lithium (Li), total.....				
Magnesium (Mg), total.....	13.4199	12.5789	12.6078	9.4922
Manganese (Mn), total.....	0.0253	0.0624	0.5887	0.1441
Molybdenum(Mo), total.....	0.0329	0.0312	0.0412	0.0220 U
Sodium (Na), total.....	152.1539	152.2707	36.2891	127.9161
Nickel (Ni), total.....	0.0370 U	0.0370 U	0.0622	0.0370 U
Lead (Pb), total.....	0.005 U	0.0050 U	0.009	0.005 U
Antimony (Sb), total.....	0.0600 U	0.06 U	0.06 U	0.02 U
Selenium (Se), total.....	0.0050 U	0.005 U	0.005 U	0.004 U
Strontium (Sr), total.....	0.6197	0.5777	0.4252	0.4991
Thallium (Tl), total.....	0.01 U	0.0100 U	0.01 U	0.01 U
Vanadium (V), total.....	0.0240 U	0.0240 U	0.0240 U	0.0240 U
Zinc (Zn), total.....	0.02 U	0.4	0.0200 U	0.0988

SOLAR POND BEDROCK WELLS
METALS
INORGANICS DATA SUMMARY REPORT

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

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Sample Information

RFW Batch ID:	0487-881-058	0188-881-027	8609-049-027	8609-049-037
Customer ID:	32-86-12-17-87	39-87-03-17-88	G148609860	G148609862
Matrix:	Water	Water	Water	Water
Units:	MG/L	MG/L	MG/L	MG/L

Metals

Silver (Ag), total.....	0.0076 U	0.0076 U	0.010 U	0.010 U
Aluminum (Al), total.....	0.0605	0.0297	0.100 U	0.100 U
Arsenic (As), total.....	0.005	0.002 J	0.002 U	0.002 U
Barium (Ba), total.....	0.1174	0.0202	0.100 U	0.100 U
Beryllium (Be), total.....	0.005 U	0.005 U	0.005 U	0.005 U
Calcium (Ca), total.....	39.0180	8.9522	95.1	95.8
Cadmium (Cd), total.....	0.001 U	0.001	0.005 U	0.005 U
Cobalt (Co), total.....	0.0220 U	0.0220 U	0.050 U	0.050 U
Chromium (Cr), total.....	0.0100 U	0.0100 U	0.010 U	0.010 U
Cesium (Cs), total.....	0.02 U	0.02 U	0.100 U	0.100 U
Copper (Cu), total.....	0.0465	0.0063 U	0.020 U	0.020 U
Iron (Fe), total.....	0.0401	0.0276	0.075 U	0.075 U
Mercury (Hg), total.....	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Potassium (K), total.....	7.0	5.0	7.92	8.15
Lithium (Li), total.....	0.07 J	0.1 U		
Magnesium (Mg), total.....	9.0414	1.4221	29.2	29.3
Manganese (Mn), total.....	0.1400	0.0075	0.042	0.043
Molybdenum(Mo), total.....	0.0220 U	0.0220 U	0.100 U	0.100 U
Sodium (Na), total.....	132.8561	19.6097	267	286
Nickel (Ni), total.....	0.0370 U	0.0370 U	0.040 U	0.040 U
Lead (Pb), total.....	0.002 J	0.005 U	0.010 U	0.010 U
Antimony (Sb), total.....	0.02 U	0.02 U	0.050 U	0.050 U
Selenium (Se), total.....	0.005	0.003 J	0.002 U	0.020 U
Strontium (Sr), total.....	0.4950	0.0869	1.37	1.30
Thallium (Tl), total.....	0.02 U	0.01 U	0.010 U	0.010 U
Vanadium (V), total.....	0.0240 U	0.0240 U	0.025 U	0.025 U
Zinc (Zn), total.....	0.0416	0.0200 U	0.005 U	0.005 U

SOLAR POND BEDROCK WELLS
METALS
INORGANICS DATA SUMMARY REPORT

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RFW Batch Number: Client: ROCKWELL (ROCKY FLATS) Page: 11

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Sample Information

RFW Batch ID:	8609-049-042	8611-014-032	8609-051-017	8611-014-042
Customer ID:	G168609860	G258611860	G308609860	G328611860
Matrix:	Water	Water	Water	Water
Units:	MG/L	MG/L	MG/L	MG/L

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Metals

Silver (Ag), total.....	0.010 U	0.009	0.030	0.010
Aluminum (Al), total.....	0.100 U	0.610	0.170	0.100 U
Arsenic (As), total.....	0.002 U	0.010 U	0.002 U	0.010 U
Barium (Ba), total.....	0.100 U	0.100 U	0.580	0.100
Beryllium (Be), total.....	0.005 U	0.005 U	0.005 U	0.005 U
Calcium (Ca), total.....	142.0	224.0	193.0	31.1
Cadmium (Cd), total.....	0.005 U	0.005 U	0.005 U	0.005 U
Cobalt (Co), total.....	0.050 U	0.025	0.050 U	0.025 U
Chromium (Cr), total.....	0.010 U	0.010 U	0.010 U	0.010 U
Cesium (Cs), total.....	0.100 U	0.150 U	0.150 U	0.150 U
Copper (Cu), total.....	0.020 U	0.020 U	0.020 U	0.020 U
Iron (Fe), total.....	0.075 U	0.075 U	0.478	0.075 U
Mercury (Hg), total.....	0.0003	0.0002 U	0.0011	0.0002 U
Potassium (K), total.....	6.260	35.0	38.60	8.35
Lithium (Li), total.....				
Magnesium (Mg), total.....	45.5	80.5	165.0	7.66
Manganese (Mn), total.....	0.063	0.237	0.631	0.023
Molybdenum(Mo), total.....	0.100 U	0.313	0.100 U	0.100 U
Sodium (Na), total.....	297.0	33.8	1440.0	118.0
Nickel (Ni), total.....	0.040 U	0.965	0.040 U	0.020 U
Lead (Pb), total.....	0.010 U	0.005 U	0.010 U	0.012
Antimony (Sb), total.....	0.050 U	0.060 U	0.050 U	0.060 U
Selenium (Se), total.....	0.0045	0.005 U	0.010	0.005 U
Strontium (Sr), total.....	1.880	2.850	21.5	0.580
Thallium (Tl), total.....	0.010 U	0.010 U	0.544	0.010 U
Vanadium (V), total.....	0.025 U	0.025 U	0.025 U	0.025 U
Zinc (Zn), total.....	0.005	0.059	0.023	0.077

APPENDIX C-4
SURFACE WATER ANALYTICAL DATA

**SOLAR POND CLOSURE CHARACTERIZATION REPORT
ROCKY FLATS PLANT, GOLDEN, COLORADO**

1 JULY 1988

APPENDICES

VOLATILE ORGANICS

**SOLAR POND CLOSURE CHARACTERIZATION REPORT
ROCKY FLATS PLANT, GOLDEN, COLORADO**

1 JULY 1988

APPENDICES

WESTON ANALYTICS: Volatiles

June 28, 1988

Page: 1

List: Customer ID's: All

RFW Batch ID	Customer ID	Laboratory ID
0387-881-011	SW-59-07-21-87	
0387-881-012	SW-60-07-21-87	
0487-881-093	SW-60-11-11-87	
0387-881-013	SW-61-07-22-87	
0487-881-094	SW-61-11-11-87	
8608-044-021	SW03088600	21
8608-024-001	SW17088600	01
8608-056-006	SW18088600	06
8608-041-026	SW21088600	26
8608-041-036	SW23088600	36
8608-041-041	SW24088600	41
8608-041-046	SW25088600	46
8608-029-001	SWA1088600	01
8608-029-007	SWA2088600	07
8608-029-013	SWA3088600	13
8608-029-019	SWA4088600	19
8608-033-001	SWB1088600	01
8608-033-006	SWB2088600	06
8608-033-011	SWB3088600	11
8608-033-016	SWB4088600	16
8608-036-037	SWB5088600	37

SOLAR PONDS SURFACE WATER SAMPLES
GC/MS DATA SUMMARY
Volatile HAZARDOUS SUBSTANCE LIST COMPOUNDS

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

Page: 1

Sample Information

RFW Batch ID:	0387-881-011	0387-881-012	0487-881-093	0387-881-013
Customer ID:	SW-59-07-21-87	SW-60-07-21-87	SW-60-11-11-87	SW-61-07-22-87
Matrix:	Water	Water	Water	Water
Units:	UG/L	UG/L	UG/L	UG/L
Dilution Factor:	1	1	1.0	1

Surrogate Recovery

Toluene-d8:	%	%	92 %	%
Bromofluorobenzene:	%	%	94 %	%
1,2-Dichloroethane-d4:	%	%	88 %	%

Analytes

Chloromethane.....	NR	NR	10	U	NR
Bromomethane.....	NR	NR	10	U	NR
Vinyl Chloride.....	NR	NR	10	U	NR
Chloroethane.....	NR	NR	10	U	NR
Methylene Chloride.....	NR	NR	44.00		NR
Acetone.....	NR	NR	10	U	NR
Carbon Disulfide.....	NR	NR	5	U	NR
1,1-Dichloroethene.....	133	5 U	5	U	5 U
1,1-Dichloroethane.....	NR	NR	5	U	NR
Trans-1,2-Dichloroethene.....	5 U	5 U	5	U	5 U
Chloroform.....	40	5 U	10.00		5 U
1,2-Dichloroethane.....	5 U	5 U	5	U	5 U
Z-Butanone.....	NR	NR	10	U	NR
1,1,1-Trichloroethane.....	5 U	5 U	5	U	33
Carbon Tetrachloride.....	605	173	145.00		5 U
Vinyl Acetate.....	NR	NR	10	U	NR
Bromodichloromethane.....	NR	NR	5	U	NR
1,2-Dichloropropane.....	NR	NR	5	U	NR
Trans-1,3-Dichloropropene.....	NR	NR	5	U	NR
Trichloroethene.....	62	5 U	25.00		6
Dibromochloromethane.....	NR	NR	5	U	NR
1,1,2-Trichloroethane.....	5 U	5 U	5	U	5 U
Benzene.....	NR	NR	5	U	NR
cis-1,3-Dichloropropene.....	NR	NR	5	U	NR
2-Chloroethylvinylether.....	NR	NR	NR		NR
Bromoform.....	NR	NR	5	U	NR
4-Methyl-2-pentanone.....	NR	NR	10	U	NR
2-Hexanone.....	NR	NR	10	U	NR
Tetrachloroethene.....	60	5 U	5	U	5 U
1,1,2,2-Tetrachloroethane.....	NR	NR	5	U	NR
Toluene.....	NR	NR	11.00		NR
Chlorobenzene.....	NR	NR	5	U	NR
Ethylbenzene.....	NR	NR	5	U	NR
Styrene.....	NR	NR	5	U	NR
Total Xylenes.....	NR	NR	5	U	NR

Modifiers: U=Analyzed, not detected. J=Present below detection limit. B=Present in blank. NS=Not spiked. %=Percent recovery.

SOLAR PONDS SURFACE WATER SAMPLES

GC/MS DATA SUMMARY

Volatile HAZARDOUS SUBSTANCE LIST COMPOUNDS

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

Page: 2

Sample Information

RFW Batch ID:	0487-881-094	8608-044-021	8608-024-001	8608-056-006
Customer ID:	SW-61-11-11-87	SW03088600	SW17088600	SW18088600
Matrix:	Water	Water	Water	Water
Units:	UG/L	UG/L	UG/L	UG/L
Dilution Factor:	1.0	1	1	1

Surrogate Recovery

Toluene-d8:	96 %	97 %	99 %	100 %
Bromofluorobenzene:	100 %	98 %	99 %	98 %
1,2-Dichloroethane-d4:	88 %	91 %	92 %	92 %

Analytes

Chloromethane.....	10 U	10 U	10 U	10 U
Bromomethane.....	10 U	10 U	10 U	10 U
Vinyl Chloride.....	10 U	10 U	10 U	10 U
Chloroethane.....	10 U	10 U	10 U	10 U
Methylene Chloride.....	20.00	5 U	5 U	22
Acetone.....	10 U	10 U	10 U	5 BJ
Carbon Disulfide.....	5 U	5 U	5 U	5 B
1,1-Dichloroethene.....	5 U	5 U	5 U	5 U
1,1-Dichloroethane.....	5 U	5 U	5 U	5 U
Trans-1,2-Dichloroethene.....	5 U	5 U	3 J	5 U
Chloroform.....	15.00	5 U	5 U	5 U
1,2-Dichloroethane.....	5 U	5 U	5 U	5 U
2-Butanone.....	10 U	10 U	10 U	5 J
1,1,1-Trichloroethane.....	5 U	5 U	5 U	5 U
Carbon Tetrachloride.....	6.00	5 U	5 U	5 U
Vinyl Acetate.....	10 U	10 U	10 U	10 U
Bromodichloromethane.....	5 U	5 U	5 U	5 U
1,2-Dichloropropane.....	5 U	5 U	5 U	5 U
Trans-1,3-Dichloropropene.....	5 U	5 U	5 U	5 U
Trichloroethene.....	70.00	5 U	1 J	2 J
Dibromochloromethane.....	5 U	5 U	5 U	5 U
1,1,2-Trichloroethane.....	5 U	5 U	5 U	5 U
Benzene.....	5 U	5 U	5 U	5 U
cis-1,3-Dichloropropene.....	5 U	5 U	5 U	5 U
2-Chloroethylvinylether.....	NR	10 U	10 U	10 U
Bromoform.....	5 U	5 U	5 U	5 U
4-Methyl-2-pentanone.....	10 U	10 U	10 U	10 U
2-Hexanone.....	10 U	10 U	10 U	10 U
Tetrachloroethene.....	5 U	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane.....	5 U	5 U	5 U	5 U
Toluene.....	12.00	5 U	5 U	5 U
Chlorobenzene.....	5 U	5 U	5 U	5 U
Ethylbenzene.....	5 U	5 U	5 U	5 U
Styrene.....	5 U	5 U	5 U	5 U
Total Xylenes.....	5 U	5 U	5 U	5 U

Modifiers: U=Analyzed, not detected. J=Present below detection limit. B=Present in blank. NS=Not spiked. %=Percent recovery.

SOLAR PONDS SURFACE WATER SAMPLES

GC/MS DATA SUMMARY

Volatile HAZARDOUS SUBSTANCE LIST COMPOUNDS

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

Page: 3

Sample Information

RFW Batch ID:	8608-041-026	8608-041-036	8608-041-041	8608-041-046
Customer ID:	SW21088600	SW23088600	SW24088600	SW25088600
Matrix:	Water	Water	Water	Water
Units:	UG/L	UG/L	UG/L	UG/L
Dilution Factor:	1	1	1	1

Surrogate Recovery

	97 %	97 %	98 %	96 %
Bromofluorobenzene:	96 %	95 %	95 %	95 %
1,2-Dichloroethane-d4:	89 %	88 %	89 %	87 %

Analytes

Analyte	10 U				
Chloromethane.....	10 U				
Bromomethane.....	10 U				
Vinyl Chloride.....	2 J	10 U	10 U	10 U	10 U
Chloroethane.....	10 U				
Methylene Chloride.....	1 J	1 J	1 J	1 J	21
Acetone.....	14 B	16 B	17 B	10 U	10 U
Carbon Disulfide.....	5 U	5 U	5 U	5 U	5 U
1,1-Dichloroethene.....	5 U	5 U	5 U	5 U	5 U
1,1-Dichloroethane.....	5 U	5 U	5 U	5 U	5 U
Trans-1,2-Dichloroethene.....	9	3 J	5 U	5 U	5 U
Chloroform.....	3 J	5 U	5 U	5 U	5 U
1,2-Dichloroethane.....	5 U	5 U	5 U	5 U	5 U
2-Butanone.....	10 U				
1,1,1-Trichloroethane.....	1 J	5 U	5 U	5 U	5 U
Carbon Tetrachloride.....	9	5 U	5 U	5 U	5 U
Vinyl Acetate.....	10 U				
Bromodichloromethane.....	5 U	5 U	5 U	5 U	5 U
1,2-Dichloropropane.....	5 U	5 U	5 U	5 U	5 U
Trans-1,3-Dichloropropene.....	5 U	5 U	5 U	5 U	5 U
Trichloroethene.....	2 J	5 U	5 U	5 U	5 U
Dibromochloromethane.....	5 U	5 U	5 U	5 U	5 U
1,1,2-Trichloroethane.....	5 U	5 U	5 U	5 U	5 U
Benzene.....	5 U	5 U	5 U	5 U	5 U
cis-1,3-Dichloropropene.....	5 U	5 U	5 U	5 U	5 U
2-Chloroethylvinylether.....	10 U				
Bromoform.....	5 U	5 U	5 U	5 U	5 U
4-Methyl-2-pentanone.....	10 U				
2-Hexanone.....	10 U				
Tetrachloroethene.....	5 U	5 U	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane.....	5 U	5 U	5 U	5 U	5 U
Toluene.....	5 U	5 U	5 U	5 U	5 U
Chlorobenzene.....	5 U	5 U	5 U	5 U	5 U
Ethylbenzene.....	5 U	5 U	5 U	5 U	5 U
Styrene.....	5 U	5 U	5 U	5 U	5 U
Total Xylenes.....	5 U	5 U	5 U	5 U	5 U

Modifiers: U=Analyzed, not detected. J=Present below detection limit. B=Present in blank. NS=Not spiked. %=Percent recovery.

SOLAR PONDS SURFACE WATER SAMPLES

GC/MS DATA SUMMARY

Volatile HAZARDOUS SUBSTANCE LIST COMPOUNDS

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

Page: 4

Sample Information

RFW Batch ID:	8608-029-001	8608-029-007	8608-029-013	8608-029-019
Customer ID:	SWA1088600	SWA2088600	SWA3088600	SWA4088600
Matrix:	Water	Water	Water	Water
Units:	UG/L	UG/L	UG/L	UG/L
Dilution Factor:	1	1	1	1

Surrogate Recovery

Toluene-d8:	100 %	100 %	97 %	104 %
Bromofluorobenzene:	95 %	93 %	90 %	100 %
1,2-Dichloroethane-d4:	94 %	93 %	92 %	93 %

Analytes

Chloromethane.....	10 U	10 U	10 U	10 U
Bromomethane.....	10 U	10 U	10 U	10 U
Vinyl Chloride.....	10 U	10 U	10 U	10 U
Chloroethane.....	10 U	10 U	10 U	10 U
Methylene Chloride.....	1 J	2 J	4 J	5 U
Acetone.....	3 B	3 B	4 B	7 B
Carbon Disulfide.....	5 U	5 U	5 U	5 U
1,1-Dichloroethene.....	5 U	5 U	5 U	5 U
1,1-Dichloroethane.....	5 U	5 U	5 U	5 U
Trans-1,2-Dichloroethene.....	5 U	5 U	5 U	5 U
Chloroform.....	5 U	5 U	5 U	5 U
1,2-Dichloroethane.....	5 U	5 U	5 U	5 U
2-Butanone.....	10 U	5 J	10 U	10 U
1,1,1-Trichloroethane.....	5 U	5 U	5 U	5 U
Carbon Tetrachloride.....	5 U	5 U	5 U	5 U
Vinyl Acetate.....	10 U	10 U	10 U	10 U
Bromodichloromethane.....	5 U	5 U	5 U	5 U
1,2-Dichloropropane.....	5 U	5 U	5 U	5 U
Trans-1,3-Dichloropropene.....	5 U	5 U	5 U	5 U
Trichloroethene.....	5 U	5 U	5 U	5 U
Dibromochloromethane.....	5 U	5 U	5 U	5 U
1,1,2-Trichloroethane.....	5 U	5 U	5 U	5 U
Benzene.....	5 U	5 U	5 U	5 U
cis-1,3-Dichloropropene.....	5 U	5 U	5 U	5 U
2-Chloroethylvinylether.....	10 U	10 U	10 U	10 U
Bromoform.....	5 U	5 U	5 U	5 U
4-Methyl-2-pentanone.....	3 J	10 U	10 U	10 U
2-Hexanone.....	1 J	10 U	10 U	10 U
Tetrachloroethene.....	5 U	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane.....	5 U	5 U	5 U	5 U
Toluene.....	5 U	5 U	5 U	5 U
Chlorobenzene.....	5 U	5 U	5 U	5 U
Ethylbenzene.....	5 U	5 U	5 U	5 U
Styrene.....	5 U	5 U	5 U	5 U
Total Xylenes.....	5 U	5 U	5 U	5 U

Modifiers: U=Analyzed, not detected. J=Present below detection limit. B=Present in blank. NS=Not spiked. %=Percent recovery.

SOLAR PONDS SURFACE WATER SAMPLES
GC/MS DATA SUMMARY
Volatile HAZARDOUS SUBSTANCE LIST COMPOUNDS

RFW Batch Number: Client: ROCKWELL (ROCKY FLATS)

Page: 5

Sample Information

RFW Batch ID:	8608-033-001	8608-033-006	8608-033-011	8608-033-016
Customer ID:	SWB1088600	SWB2088600	SWB3088600	SWB4088600
Matrix:	Water	Water	Water	Water
Units:	UG/L	UG/L	UG/L	UG/L
Dilution Factor:	1	1	1	1

Surrogate Recovery

Toluene-d8:	99 %	99 %	98 %	98 %
Bromoform:	100 %	100 %	100 %	100 %
1,2-Dichloroethane-d4:	93 %	93 %	91 %	93 %

Analytes

Chloromethane.....	10 U	10 U	10 U	10 U
Bromomethane.....	10 U	10 U	10 U	10 U
Vinyl Chloride.....	10 U	10 U	10 U	10 U
Chloroethane.....	10 U	10 U	10 U	10 U
Methylene Chloride.....	5.5 U	79	3 J	340
Acetone.....	10	10 U	10 U	10 U
Carbon Disulfide.....	5 U	5 U	5 U	5 U
1,1-Dichloroethene.....	5 U	5 U	5 U	5 U
1,1-Dichloroethane.....	5 U	5 U	5 U	5 U
Trans-1,2-Dichloroethene.....	5 U	5 U	5 U	5 U
Chloroform.....	5 U	5 U	5 U	5 U
1,2-Dichloroethane.....	5 U	5 U	5 U	5 U
2-Butanone.....	10 U	10 U	10 U	10 U
1,1,1-Trichloroethane.....	5 U	5 U	5 U	5 U
Carbon Tetrachloride.....	5 U	5 U	5 U	5 U
Vinyl Acetate.....	10 U	10 U	10 U	10 U
Bromodichloromethane.....	5 U	5 U	5 U	5 U
1,2-Dichloropropane.....	5 U	5 U	5 U	5 U
Trans-1,3-Dichloropropene.....	5 U	5 U	5 U	5 U
Trichloroethene.....	5 U	5 U	5 U	7
Dibromochloromethane.....	5 U	5 U	5 U	5 U
1,1,2-Trichloroethane.....	5 U	5 U	5 U	5 U
Benzene.....	5 U	5 U	5 U	5 U
cis-1,3-Dichloropropene.....	5 U	5 U	5 U	5 U
2-Chloroethylvinylether.....	10 U	10 U	10 U	10 U
Bromoform.....	5 U	5 U	5 U	5 U
4-Methyl-2-pentanone.....	10 U	10 U	10 U	10 U
2-Hexanone.....	10 U	10 U	10 U	10 U
Tetrachloroethene.....	5 U	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane.....	5 U	5 U	5 U	5 U
Toluene.....	5 U	5 U	5 U	5 U
Chlorobenzene.....	5 U	5 U	5 U	5 U
Ethylbenzene.....	5 U	5 U	5 U	5 U
Styrene.....	5 U	5 U	5 U	5 U
Total Xylenes.....	5 U	5 U	5 U	5 U

Modifiers: U=Analyzed, not detected. J=Present below detection limit. B=Present in blank. NS=Not spiked. %=Percent recovery.

SOLAR PONDS SURFACE WATER SAMPLES

GC/MS DATA SUMMARY

Volatile HAZARDOUS SUBSTANCE LIST COMPOUNDS

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

Page: 6

Sample Information

RFW Batch ID: 8608-036-037
 Customer ID: SW85088600
 Matrix: Water
 Units: UG/L
 Dilution Factor: 1

Surrogate Recovery

Toluene-d8:	101 %
Bromofluorobenzene:	101 %
1,2-Dichloroethane-d4:	99 %

Analytes

Chloromethane.....	10 U
Bromomethane.....	10 U
Vinyl Chloride.....	10 U
Chloroethane.....	10 U
Methylene Chloride.....	5 U
Acetone.....	10 U
Carbon Disulfide.....	5 U
1,1-Dichloroethene.....	5 U
1,1-Dichloroethane.....	5 U
Trans-1,2-Dichloroethene.....	5 U
Chloroform.....	5 U
1,2-Dichloroethane.....	5 U
2-Butanone.....	10 U
1,1,1-Trichloroethane.....	5 U
Carbon Tetrachloride.....	5 U
Vinyl Acetate.....	10 U
Bromodichloromethane.....	5 U
1,2-Dichloropropane.....	5 U
Trans-1,3-Dichloropropene.....	5 U
Trichloroethene.....	5 U
Dibromochloromethane.....	5 U
1,1,2-Trichloroethane.....	5 U
Benzene.....	5 U
cis-1,3-Dichloropropene.....	5 U
2-Chloroethylvinylether.....	10 U
Bromoform.....	5 U
4-Methyl-2-pentanone.....	10 U
2-Hexanone.....	10 U
Tetrachloroethene.....	5 U
1,1,2,2-Tetrachloroethane.....	5 U
Toluene.....	5 U
Chlorobenzene.....	5 U
Ethylbenzene.....	5 U
Styrene.....	5 U
Total Xylenes.....	5 U

Modifiers: U=Analyzed, not detected. J=Present below detection limit. B=Present in blank. NS=Not spiked. %=Percent recovery.

SEMI-VOLATILES

SOLAR POND CLOSURE CHARACTERIZATION REPORT
ROCKY FLATS PLANT, GOLDEN, COLORADO

1 JULY 1988

APPENDICES

WESTON ANALYTICS: Semivolatiles

June 28, 1988

Page: 1

List: Customer ID's: All

RFW Batch ID	Customer ID	Laboratory ID
8608-064-004	SW03088600	
8608-073-002	SW18088600	
8608-065-002	SW21088600	
8608-065-004	SW23088600	
8608-065-005	SW24088600	
8608-065-006	SW25088600	
8608-055-001	SWA1088600	
8608-055-002	SWA2088600	
8608-055-003	SWA3088600	
8608-055-004	SWA4088600	
8608-057-006	SWB1088600	
8608-057-001	SWB2088600	
8608-057-002	SWB3088600	
8608-057-003	SWB4088600	
8608-058-002	SWB5088600	

SOLAR PONDS SURFACE WATER SAMPLES

GC/MS DATA SUMMARY

Semivolatile HAZARDOUS SUBSTANCE LIST COMPOUNDS

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

Page: 1

Sample Information

RFW Batch ID:	8608-064-004	8608-073-002	8608-065-002	8608-065-004
Customer ID:	SW03088600	SW18088600	SW21088600	SW23088600
Matrix:	Water	Water	Water	Water
Units:	UG/L	UG/L	UG/L	UG/L
Dilution Factor:	1	1	1	1

Surrogate Recovery

2-Fluorophenol:	38 %	37 %	43 %	36 %
Phenol-d5:	26 %	29 %	30 %	32 %
2,4,6-Br ₃ -Phenol:	84 %	74 %	83 %	68 %
Nitrobenzene-d5:	34 %	42 %	44 %	40 %
2-Fluorobiphenyl:	46 %	66 %	50 %	64 %
p-Terphenyl-d14:	56 %	50 %	64 %	60 %

Analytes

Phenol.....	10 U	10 U	10 U	10 U
bis(2-Chloroethyl)Ether.....	10 U	10 U	10 U	10 U
2-Chlorophenol.....	10 U	10 U	10 U	10 U
1,3-Dichlorobenzene.....	10 U	10 U	10 U	10 U
1,4-Dichlorobenzene.....	10 U	10 U	10 U	10 U
Benzyl Alcohol.....	10 U	10 U	10 U	10 U
1,2-Dichlorobenzene.....	10 U	10 U	10 U	10 U
2-Methylphenol.....	10 U	10 U	10 U	10 U
bis(2-Chloroisopropyl)Ether.....	10 U	10 U	10 U	10 U
4-Methylphenol.....	10 U	10 U	10 U	10 U
N-Nitroso-di-n-propylamine.....	10 U	10 U	10 U	10 U
Hexachloroethane.....	10 U	10 U	10 U	10 U
Nitrobenzene.....	10 U	10 U	10 U	10 U
Isophorone.....	10 U	10 U	10 U	10 U
2-Nitrophenol.....	10 U	10 U	10 U	10 U
2,4-Dimethylphenol.....	10 U	10 U	10 U	10 U
Benzoic Acid.....	50 U	50 U	50 U	50 U
bis(2-Chloroethoxy)Methane.....	10 U	10 U	10 U	10 U
2,4-Dichlorophenol.....	10 U	10 U	10 U	10 U
1,2,4-Trichlorobenzene.....	10 U	10 U	10 U	10 U
Naphthalene.....	10 U	10 U	10 U	10 U
4-Chloroaniline.....	10 U	10 U	10 U	10 U
Hexachlororbutadiene.....	10 U	10 U	10 U	10 U
4-Chloro-3-methylphenol.....	10 U	10 U	10 U	10 U
2-Methylnaphthalene.....	10 U	10 U	10 U	10 U
Hexachlorocyclopentadiene.....	10 U	10 U	10 U	10 U
2,4,6-Trichlorophenol.....	10 U	10 U	10 U	10 U
2,4,5-Trichlorophenol.....	50 U	50 U	50 U	50 U
2-Chloronaphthalene.....	10 U	10 U	10 U	10 U
2-Nitroaniline.....	50 U	50 U	50 U	50 U
Dimethyl Phthalate.....	10 U	10 U	10 U	10 U
Acenaphthylene.....	10 U	10 U	10 U	10 U

Modifiers: U=Analyzed, not detected. J=Present below detection limit. B=Present in blank. NS=Not spiked. %=Percent recovery.

SOLAR PONDS SURFACE WATER SAMPLES
GC/MS DATA SUMMARY
Semivolatile HAZARDOUS SUBSTANCE LIST COMPOUNDS

===== RFW Batch Number: Client: ROCKWELL (ROCKY FLATS) Page: 2 =====

Sample Information

RFW Batch ID:	8608-064-004	8608-073-002	8608-065-002	8608-065-004
Customer ID:	SW03088600	SW18088600	SW21088600	SW23088600
Matrix:	Water	Water	Water	Water
Units:	UG/L	UG/L	UG/L	UG/L
Dilution Factor:	1	1	1	1

Analytes

3-Nitroaniline.....	50 U	50 U	50 U	50 U
Acenaphthene.....	10 U	10 U	10 U	10 U
2,4-Dinitrophenol.....	50 U	50 U	50 U	50 U
4-Nitrophenol.....	50 U	50 U	50 U	50 U
Dibenzofuran.....	10 U	10 U	10 U	10 U
2,4-Dinitrotoluene.....	10 U	10 U	10 U	10 U
2,6-Dinitrotoluene.....	10 U	10 U	10 U	10 U
Diethylphthalate.....	10 U	10 U	10 U	10 U
4-Chlorophenyl-phenylether.....	10 U	10 U	10 U	10 U
Fluorene.....	10 U	10 U	10 U	10 U
4-Nitroaniline.....	50 U	50 U	50 U	50 U
4,6-Dinitro-2-methylphenol.....	50 U	50 U	50 U	50 U
N-Nitrosodiphenylamine.....	7 JB	6 JB	6 JB	11 8
4-Bromophenyl-phenylether.....	10 U	10 U	10 U	10 U
Hexachlorobenzene.....	10 U	10 U	10 U	10 U
Pentachlorophenol.....	50 U	50 U	50 U	50 U
Phanthrene.....	10 U	10 U	10 U	10 U
Anthracene.....	10 U	10 U	10 U	10 U
di-n-Butyl Phthalate.....	10 U	10 U	10 U	10 U
Fluoranthene.....	10 U	10 U	10 U	10 U
Pyrene.....	10 U	10 U	10 U	10 U
Butyl Benzyl Phthalate.....	10 U	10 U	10 U	10 U
3,3'-Dichlorobenzidine.....	20 U	20 U	20 U	20 U
Benzo(a)Anthracene.....	10 U	10 U	10 U	10 U
bis(2-Ethylhexyl)Phthalate.....	10 U	10 U	10 U	10 U
Chrysene.....	10 U	10 U	10 U	10 U
di-n-Octyl Phthalate.....	10 U	10 U	10 U	10 U
Benzo(b)Fluoranthene.....	10 U	10 U	10 U	10 U
Benzo(k)Fluoranthene.....	10 U	10 U	10 U	10 U
Benzo(a)Pyrene.....	10 U	10 U	10 U	10 U
Indeno(1,2,3-cd)Pyrene.....	10 U	10 U	10 U	10 U
Dibenzo(a,h)Anthracene.....	10 U	10 U	10 U	10 U
Benzo(g,h,i)Perylene.....	10 U	10 U	10 U	10 U

Modifiers: U=Analyzed, not detected. J=Present below detection limit. B=Present in blank. NS=Not spiked. %=Percent recovery.

SOLAR PONDS SURFACE WATER SAMPLES

GC/MS DATA SUMMARY

Semivolatile HAZARDOUS SUBSTANCE LIST COMPOUNDS

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

Page: 3

Sample Information

RFW Batch ID:	8608-065-005	8608-065-006	8608-055-001	8608-055-002
Customer ID:	SW24088600	SW25088600	SWA1088600	SWA2088600
Matrix:	Water	Water	Water	Water
Units:	UG/L	UG/L	UG/L	UG/L
Dilution Factor:	1	1	1	1

Surrogate Recovery

2-Fluorophenol:	42 %	34 %	26 %	38 %
Phenol-d5:	34 %	24 %	15 %	26 %
2,4,6-Br3-Phenol:	69 %	64 %	66 %	66 %
Nitrobenzene-d5:	48 %	20 %	28 %	32 %
2-Fluorobiphenyl:	62 %	44 %	38 %	36 %
p-Terphenyl-d14:	54 %	52 %	58 %	21 %

Analytes

Phenol.....	10 U	10 U	10 U	10 U
bis(2-Chloroethyl)Ether.....	10 U	10 U	10 U	10 U
2-Chlorophenol.....	10 U	10 U	10 U	10 U
1,3-Dichlorobenzene.....	10 U	10 U	10 U	10 U
1,4-Dichlorobenzene.....	10 U	10 U	10 U	10 U
Benzyl Alcohol.....	10 U	10 U	10 U	10 U
1,2-Dichlorobenzene.....	10 U	10 U	10 U	10 U
2-Methylphenol.....	10 U	10 U	10 U	10 U
bis(2-Chloroisopropyl)Ether.....	10 U	10 U	10 U	10 U
4-Methylphenol.....	10 U	10 U	10 U	10 U
N-Nitroso-di-n-propylamine.....	10 U	10 U	10 U	10 U
Hexachloroethane.....	10 U	10 U	10 U	10 U
Nitrobenzene.....	10 U	10 U	10 U	10 U
Isophorone.....	10 U	10 U	10 U	10 U
2-Nitrophenol.....	10 U	10 U	10 U	10 U
2,4-Dimethylphenol.....	10 U	10 U	10 U	10 U
Benzoic Acid.....	50 U	50 U	50 U	50 U
bis(2-Chloroethoxy)Methane.....	10 U	10 U	10 U	10 U
2,4-Dichlorophenol.....	10 U	10 U	10 U	10 U
1,2,4-Trichlorobenzene.....	10 U	10 U	10 U	10 U
Naphthalene.....	10 U	10 U	10 U	10 U
4-Chloroaniline.....	10 U	10 U	10 U	10 U
Hexachlororbutadiene.....	10 U	10 U	10 U	10 U
4-Chloro-3-methylphenol.....	10 U	10 U	10 U	10 U
2-Methylnaphthalene.....	10 U	10 U	10 U	10 U
Hexachlorocyclopentadiene.....	10 U	10 U	10 U	10 U
2,4,6-Trichlorophenol.....	10 U	10 U	10 U	10 U
2,4,5-Trichlorophenol.....	50 U	50 U	50 U	50 U
2-Chloronaphthalene.....	10 U	10 U	10 U	10 U
2-Nitroaniline.....	50 U	50 U	50 U	50 U
Dimethyl Phthalate.....	10 U	10 U	10 U	10 U
Acenaphthylene.....	10 U	10 U	10 U	10 U

Modifiers: U=Analyzed, not detected. J=Present below detection limit. B=Present in blank. NS=Not spiked. %=Percent recovery.

SOLAR PONDS SURFACE WATER SAMPLES

GC/MS DATA SUMMARY

Semivolatile HAZARDOUS SUBSTANCE LIST COMPOUNDS

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

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Sample Information

RFW Batch ID:	8608-065-005	8608-065-006	8608-055-001	8608-055-002
Customer ID:	SW24088600	SW25088600	SWA1088600	SWA2088600
Matrix:	Water	Water	Water	Water
Units:	UG/L	UG/L	UG/L	UG/L
Dilution Factor:	1	1	1	1

Analytes

3-Nitroaniline.....	50 U	50 U	50 U	50 U
Acenaphthene.....	10 U	10 U	10 U	10 U
2,4-Dinitrophenol.....	50 U	50 U	50 U	50 U
4-Nitrophenol.....	50 U	50 U	50 U	50 U
Dibenzofuran.....	10 U	10 U	10 U	10 U
2,4-Dinitrotoluene.....	10 U	10 U	10 U	10 U
2,6-Dinitrotoluene.....	10 U	10 U	10 U	10 U
Diethylphthalate.....	10 U	10 U	10 U	10 U
4-Chlorophenyl-phenylether.....	10 U	10 U	10 U	10 U
Fluorene.....	10 U	10 U	10 U	10 U
4-Nitroaniline.....	50 U	50 U	50 U	50 U
4,6-Dinitro-2-methylphenol.....	50 U	50 U	50 U	50 U
N-Nitrosodiphenylamine.....	9 JB	45 B	300	10 U
4-Bromophenyl-phenylether.....	10 U	10 U	10 U	10 U
Hexachlorobenzene.....	10 U	10 U	10 U	10 U
Pentachlorophenol.....	50 U	50 U	50 U	50 U
Phenanthrene.....	10 U	10 U	10 U	10 U
Anthracene.....	10 U	10 U	10 U	10 U
di-n-Butyl Phthalate.....	10 U	2 J	5	10 U
Fluoranthene.....	10 U	10 U	10 U	10 U
Pyrene.....	10 U	10 U	10 U	10 U
Butyl Benzyl Phthalate.....	10 U	10 U	10 U	10 U
3,3'-Dichlorobenzidine.....	20 U	20 U	20 U	20 U
Benzo(a)Anthracene.....	10 U	10 U	10 U	10 U
bis(2-Ethylhexyl)Phthalate.....	10 U	10 U	1.6 JB	3.0 J
Chrysene.....	10 U	10 U	1.5 J	10 U
di-n-Octyl Phthalate.....	10 U	10 U	10 U	10 U
Benzo(b)Fluoranthene.....	10 U	10 U	10 U	10 U
Benzo(k)Fluoranthene.....	10 U	10 U	10 U	10 U
Benzo(a)Pyrene.....	10 U	10 U	10 U	10 U
Indeno(1,2,3-cd)Pyrene.....	10 U	10 U	10 U	10 U
Dibenz(a,h)Anthracene.....	10 U	10 U	10 U	10 U
Benzo(g,h,i)Perylene.....	10 U	10 U	10 U	10 U

Modifiers: U=Analyzed, not detected. J=Present below detection limit. B=Present in blank. NS=Not spiked. %=Percent recovery.

SOLAR PONDS SURFACE WATER SAMPLES

GC/MS DATA SUMMARY

Semivolatile HAZARDOUS SUBSTANCE LIST COMPOUNDS

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

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Sample Information

RFW Batch ID:	8608-055-003	8608-055-004	8608-057-006	8608-057-001
Customer ID:	SWA3088600	SWA4088600	SWB1088600	SWB2088600
Matrix:	Water	Water	Water	Water
Units:	UG/L	UG/L	UG/L	UG/L
Dilution Factor:	1	1	1	1

Surrogate Recovery

2-Fluorophenol:	37 %	34 %	36 %	33 %
Phenol-d5:	25 %	22 %	26 %	20 %
2,4,6-Br ₃ -Phenol:	72 %	77 %	64 %	69 %
Nitrobenzene-d5:	30 %	22 %	16 %	24 %
2-Fluorobiphenyl:	42 %	58 %	52 %	52 %
p-Terphenyl-d14:	44 %	55 %	54 %	58 %

Analytes

Phenol.....	10 U	10 U	10 U	10 U
bis(2-Chloroethyl)Ether.....	10 U	10 U	10 U	10 U
2-Chlorophenol.....	10 U	10 U	10 U	10 U
1,3-Dichlorobenzene.....	10 U	10 U	10 U	10 U
1,4-Dichlorobenzene.....	10 U	10 U	10 U	10 U
Benzyl Alcohol.....	10 U	10 U	10 U	10 U
1,2-Dichlorobenzene.....	10 U	10 U	10 U	10 U
2-Methylphenol.....	10 U	10 U	10 U	10 U
bis(2-Chloroisopropyl)Ether.....	10 U	10 U	10 U	10 U
4-Methylphenol.....	10 U	10 U	10 U	10 U
N-Nitroso-di-n-propylamine.....	10 U	10 U	10 U	10 U
Hexachloroethane.....	10 U	10 U	10 U	10 U
Nitrobenzene.....	10 U	10 U	10 U	10 U
Isophorone.....	10 U	10 U	10 U	10 U
2-Nitrophenol.....	10 U	10 U	10 U	10 U
2,4-Dimethylphenol.....	10 U	10 U	10 U	10 U
Benzoic Acid.....	50 U	50 U	50 U	50 U
bis(2-Chloroethoxy)Methane.....	10 U	10 U	10 U	10 U
2,4-Dichlorophenol.....	10 U	10 U	10 U	10 U
1,2,4-Trichlorobenzene.....	10 U	10 U	10 U	10 U
Naphthalene.....	10 U	10 U	10 U	10 U
4-Chloroaniline.....	10 U	10 U	10 U	10 U
Hexachlororbutadiene.....	10 U	10 U	10 U	10 U
4-Chloro-3-methylphenol.....	10 U	10 U	10 U	10 U
2-Methylnaphthalene.....	10 U	10 U	10 U	10 U
Hexachlorocyclopentadiene.....	10 U	10 U	10 U	10 U
2,4,6-Trichlorophenol.....	10 U	10 U	10 U	10 U
2,4,5-Trichlorophenol.....	50 U	50 U	50 U	50 U
2-Chloronaphthalene.....	10 U	10 U	10 U	10 U
2-Nitroaniline.....	50 U	50 U	50 U	50 U
Dimethyl Phthalate.....	10 U	10 U	10 U	10 U
Acenaphthylene.....	10 U	10 U	10 U	10 U

Modifiers: U=Analyzed, not detected. J=Present below detection limit. B=Present in blank. NS=Not spiked. %=Percent recovery.

SOLAR PONDS SURFACE WATER SAMPLES

GC/MS DATA SUMMARY

Semivolatile HAZARDOUS SUBSTANCE LIST COMPOUNDS

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

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Sample Information

RFW Batch ID:	8608-055-003	8608-055-004	8608-057-006	8608-057-001
Customer ID:	SWA3088600	SWA4088600	SWB1088600	SWB2088600
Matrix:	Water	Water	Water	Water
Units:	UG/L	UG/L	UG/L	UG/L
Dilution Factor:	1	1	1	1

Analytes

3-Nitroaniline.....	50 U	50 U	50 U	50 U
Acenaphthene.....	10 U	10 U	10 U	10 U
2,4-Dinitrophenol.....	50 U	50 U	50 U	50 U
4-Nitrophenol.....	50 U	50 U	50 U	50 U
Dibenzofuran.....	10 U	10 U	10 U	10 U
2,4-Dinitrotoluene.....	10 U	10 U	10 U	10 U
2,6-Dinitrotoluene.....	10 U	10 U	10 U	10 U
Diethylphthalate.....	10 U	10 U	10 U	10 U
4-Chlorophenyl-phenylether.....	10 U	10 U	10 U	10 U
Fluorene.....	10 U	10 U	10 U	10 U
4-Nitroaniline.....	50 U	50 U	50 U	50 U
4,6-Dinitro-2-methylphenol.....	50 U	50 U	50 U	50 U
N-Nitrosodiphenylamine.....	10 U	300	173	249
4-Bromophenyl-phenylether.....	10 U	10 U	10 U	10 U
Hexachlorobenzene.....	10 U	10 U	10 U	10 U
Pentachlorophenol.....	50 U	50 U	50 U	50 U
Phanthrene.....	10 U	10 U	10 U	10 U
Anthracene.....	10 U	10 U	10 U	10 U
di-n-Butyl Phthalate.....	10 U	4.0 J	7 J	5 J
Fluoranthene.....	10 U	10 U	10 U	10 U
Pyrene.....	10 U	10 U	10 U	10 U
Butyl Benzyl Phthalate.....	10 U	10 U	10 U	10 U
3,3'-Dichlorobenzidine.....	20 U	20 U	20 U	20 U
Benzo(a)Anthracene.....	10 U	10 U	10 U	10 U
bis(2-Ethylhexyl)Phthalate.....	2.0 J	10 U	10 U	10 U
Chrysene.....	10 U	10 U	10 U	10 U
di-n-Octyl Phthalate.....	10 U	10 U	1 J	2 J
Benzo(b)Fluoranthene.....	10 U	10 U	10 U	10 U
Benzo(k)Fluoranthene.....	10 U	10 U	10 U	10 U
Benzo(a)Pyrene.....	10 U	10 U	10 U	10 U
Indeno(1,2,3-cd)Pyrene.....	10 U	10 U	10 U	10 U
Dibenzo(a,h)Anthracene.....	10 U	10 U	10 U	10 U
Benzo(g,h,i)Perylene.....	10 U	10 U	10 U	10 U

Modifiers: U=Analyzed, not detected. J=Present below detection limit. B=Present in blank. NS=Not spiked. %Percent recovery.

SOLAR PONDS SURFACE WATER SAMPLES

GC/MS DATA SUMMARY

Semivolatile HAZARDOUS SUBSTANCE LIST COMPOUNDS

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

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Sample Information

RFW Batch ID:	8608-057-002	8608-057-003	8608-058-002
Customer ID:	SWB3088600	SWB4088600	SWB5088600
Matrix:	Water	Water	Water
Units:	UG/L	UG/L	UG/L
Dilution Factor:	1	1	1

Surrogate Recovery

2-Fluorophenol:	35 %	37 %	32 %
Phenol-d5:	28 %	26 %	25 %
2,4,6-Br3-Phenol:	55 %	54 %	64 %
Nitrobenzene-d5:	42 %	64 %	38 %
2-Fluorobiphenyl:	62 %	74 %	70 %
p-Terphenyl-d14:	52 %	62 %	68 %

Analytes

Phenol.....	10 U	10 U	10 U
bis(2-Chloroethyl)Ether.....	10 U	10 U	10 U
2-Chlorophenol.....	10 U	10 U	10 U
1,3-Dichlorobenzene.....	10 U	10 U	10 U
1,4-Dichlorobenzene.....	10 U	10 U	10 U
Benzyl Alcohol.....	10 U	10 U	10 U
1,2-Dichlorobenzene.....	10 U	10 U	10 U
2-Methylphenol.....	10 U	10 U	10 U
bis(2-Chloroisopropyl)Ether.....	10 U	10 U	10 U
4-Methylphenol.....	10 U	10 U	10 U
N-Nitroso-di-n-propylamine.....	10 U	10 U	10 U
Hexachloroethane.....	10 U	10 U	10 U
Nitrobenzene.....	10 U	10 U	10 U
Isophorone.....	10 U	10 U	10 U
2-Nitrophenol.....	10 U	10 U	10 U
2,4-Dimethylphenol.....	10 U	10 U	10 U
Benzoic Acid.....	50 U	50 U	50 U
bis(2-Chloroethoxy)Methane.....	10 U	10 U	10 U
2,4-Dichlorophenol.....	10 U	10 U	10 U
1,2,4-Trichlorobenzene.....	10 U	10 U	10 U
Naphthalene.....	10 U	10 U	10 U
4-Chloroaniline.....	10 U	10 U	10 U
Hexachlororbutadiene.....	10 U	10 U	10 U
4-Chloro-3-methylphenol.....	10 U	10 U	10 U
2-Methylnaphthalene.....	10 U	10 U	10 U
Hexachlorocyclopentadiene.....	10 U	10 U	10 U
2,4,6-Trichlorophenol.....	10 U	10 U	10 U
2,4,5-Trichlorophenol.....	50 U	50 U	50 U
2-Chloronaphthalene.....	10 U	10 U	10 U
2-Nitroaniline.....	50 U	50 U	50 U
Dimethyl Phthalate.....	10 U	10 U	10 U
Acenaphthylene.....	10 U	10 U	10 U

Modifiers: U=Analyzed, not detected. J=Present below detection limit. B=Present in blank. NS=Not spiked. %=Percent recovery.

SOLAR PONDS SURFACE WATER SAMPLES

GC/MS DATA SUMMARY

Semivolatile HAZARDOUS SUBSTANCE LIST COMPOUNDS

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

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Sample Information

RFW Batch ID:	8608-057-002	8608-057-003	8608-058-002
Customer ID:	SWB3088600	SWB4088600	SWB5088600
Matrix:	Water	Water	Water
Units:	UG/L	UG/L	UG/L
Dilution Factor:	1	1	1

Analytes

3-Nitroaniline.....	50 U	50 U	50 U
Acenaphthene.....	10 U	10 U	10 U
2,4-Dinitrophenol.....	50 U	50 U	50 U
4-Nitrophenol.....	50 U	50 U	50 U
Dibenzofuran.....	10 U	10 U	10 U
2,4-Dinitrotoluene.....	10 U	10 U	10 U
2,6-Dinitrotoluene.....	10 U	10 U	10 U
Diethylphthalate.....	10 U	10 U	10 U
4-Chlorophenyl-phenylether.....	10 U	10 U	10 U
Fluorene.....	10 U	10 U	10 U
4-Nitroaniline.....	50 U	50 U	50 U
4,6-Dinitro-2-methylphenol.....	50 U	50 U	50 U
N-Nitrosodiphenylamine.....	11 B	11 B	11
4-Bromophenyl-phenylether.....	10 U	10 U	10 U
Hexachlorobenzene.....	10 U	10 U	10 U
Pentachlorophenol.....	50 U	50 U	50 U
Phenanthrene.....	10 U	10 U	10 U
Anthracene.....	10 U	10 U	10 U
di-n-Butyl Phthalate.....	10 U	10 U	10 U
Fluoranthene.....	10 U	10 U	10 U
Pyrene.....	10 U	10 U	10 U
Butyl Benzyl Phthalate.....	10 U	10 U	10 U
3,3'-Dichlorobenzidine.....	20 U	20 U	20 U
Benzo(a)Anthracene.....	10 U	10 U	10 U
bis(2-Ethylhexyl)Phthalate.....	10 U	10 U	10 U
Chrysene.....	10 U	10 U	10 U
di-n-Octyl Phthalate.....	10 U	10 U	10 U
Benzo(b)Fluoranthene.....	10 U	10 U	10 U
Benzo(k)Fluoranthene.....	10 U	10 U	10 U
Benzo(a)Pyrene.....	10 U	10 U	10 U
Indeno(1,2,3-cd)Pyrene.....	10 U	10 U	10 U
Dibenz(a,h)Anthracene.....	10 U	10 U	10 U
Benzo(g,h,i)Perylene.....	10 U	10 U	10 U

Modifiers: U=Analyzed, not detected. J=Present below detection limit. B=Present in blank. NS=Not spiked. %=Percent recovery.

PESTICIDE/PCBs

**SOLAR POND CLOSURE CHARACTERIZATION REPORT
ROCKY FLATS PLANT, GOLDEN, COLORADO**

1 JULY 1988

APPENDICES

List: Customer ID's: All

RFW Batch ID	Customer ID	Laboratory ID
8608-064-004	SW03088600	
8608-672-007	SW17088600	
8608-073-002	SW18088600	
8608-065-002	SW21088600	
8608-065-004	SW23088600	
8608-065-005	SW24088600	
8608-065-006	SW25088600	
8608-055-001	SWA1088600	
8608-055-002	SWA2088600	
8608-055-003	SWA3088600	
8608-055-004	SWA4088600	
8608-057-006	SWB1088600	
8608-057-001	SWB2088600	
8608-057-002	SWB3088600	
8608-057-003	SWB4088600	
8608-058-002	SWB5088600	

SOLAR PONDS SURFACE WATER SAMPLES

PESTICIDES/PCB

CLP LIST

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

Page: 1

Sample Information

RFW Batch ID:	8608-064-004	8608-672-007	8608-073-002	8608-065-002
Customer ID:	SW03088600	SW17088600	SW18088600	SW21088600
Matrix:	Water	Water	Water	Water
Units:	UG/L	UG/L	UG/L	UG/L
Dilution Factor:	1	2	1	1

Surrogate Recovery

Di-n-butylchloroendate:	97 %	70 %	89 %	92 %
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Analytes

Alpha-BHC.....	0.05 U	0.1 U	0.05 U	0.05 U
Beta-BHC.....	0.05 U	0.1 U	0.05 U	0.05 U
Delta-BHC.....	0.05 U	0.1 U	0.05 U	0.05 U
Gamma-BHC (Lindane).....	0.05 U	0.1 U	0.05 U	0.05 U
Heptachlor.....	0.05 U	0.1 U	0.05 U	0.05 U
Aldrin.....	0.05 U	0.1 U	0.05 U	0.05 U
Heptachlor Epoxide.....	0.05 U	0.1 U	0.05 U	0.05 U
Endosulfan I.....	0.05 U	0.1 U	0.05 U	0.05 U
Dieldrin.....	0.1 U	0.2 U	0.1 U	0.1 U
4,4'-DDE.....	0.1 U	0.2 U	0.1 U	0.1 U
Endrin.....	0.1 U	0.2 U	0.1 U	0.1 U
Endosulfan II.....	0.1 U	0.2 U	0.1 U	0.1 U
4,4'-DDD.....	0.1 U	0.2 U	0.1 U	0.1 U
Endosulfan Sulfate.....	0.1 U	0.2 U	0.1 U	0.1 U
4,4'-DDT.....	0.1 U	0.2 U	0.1 U	0.1 U
Methoxychlor.....	0.5 U	1 U	0.5 U	0.5 U
Endrin Ketone.....	0.1 U	0.2 U	0.1 U	0.1 U
Chlordane.....	0.5 U	1 U	0.5 U	0.5 U
Toxaphene.....	1.0 U	2 U	1.0 U	1.0 U
Aroclor-1016.....	0.5 U	1 U	0.5 U	0.5 U
Aroclor-1221.....	0.5 U	1 U	0.5 U	0.5 U
Aroclor-1232.....	0.5 U	1 U	0.5 U	0.5 U
Aroclor-1242.....	0.5 U	1 U	0.5 U	0.5 U
Aroclor-1248.....	0.5 U	1 U	0.5 U	0.5 U
Aroclor-1254.....	1.0 U	2 U	1.0 U	1.0 U
Aroclor-1260.....	1.0 U	2 U	1.0 U	1.0 U

SOLAR PONDS SURFACE WATER SAMPLES

PESTICIDES/PCB

CLP LIST

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

Page: 2

Sample Information

RFW Batch ID:	8608-065-004	8608-065-005	8608-065-006	8608-055-001
Customer ID:	SW23088600	SW24088600	SW25088600	SWA1088600
Matrix:	Water	Water	Water	Water
Units:	UG/L	UG/L	UG/L	UG/L
Dilution Factor:	1	1	1	1

Surrogate Recovery

Di-n-butylchlorendate:	92 %	95 %	94 %	70 %
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Analytes

Alpha-BHC.....	0.05 U	0.05 U	0.05 U	0.05 U
Beta-BHC.....	0.05 U	0.05 U	0.05 U	0.05 U
Delta-BHC.....	0.05 U	0.05 U	0.05 U	0.05 U
Gamma-BHC (Lindane).....	0.05 U	0.05 U	0.05 U	0.05 U
Heptachlor.....	0.05 U	0.05 U	0.05 U	0.05 U
Aldrin.....	0.05 U	0.05 U	0.05 U	0.05 U
Heptachlor Epoxide.....	0.05 U	0.05 U	0.05 U	0.05 U
Endosulfan I.....	0.05 U	0.05 U	0.05 U	0.05 U
Dieldrin.....	0.1 U	0.1 U	0.1 U	0.1 U
4,4'-DDE.....	0.1 U	0.1 U	0.1 U	0.1 U
Endrin.....	0.1 U	0.1 U	0.1 U	0.1 U
Endosulfan II.....	0.1 U	0.1 U	0.1 U	0.1 U
4,4'-DDD.....	0.1 U	0.1 U	0.1 U	0.1 U
Endosulfan Sulfate.....	0.1 U	0.1 U	0.1 U	0.1 U
4,4'-DDT.....	0.1 U	0.1 U	0.1 U	0.1 U
Methoxychlor.....	0.5 U	0.5 U	0.5 U	0.5 U
Endrin Ketone.....	0.1 U	0.1 U	0.1 U	0.1 U
Chlordane.....	0.5 U	0.5 U	0.5 U	0.5 U
Toxaphene.....	1.0 U	1.0 U	1.0 U	1 U
Aroclor-1016.....	0.5 U	0.5 U	0.5 U	0.5 U
Aroclor-1221.....	0.5 U	0.5 U	0.5 U	0.5 U
Aroclor-1232.....	0.5 U	0.5 U	0.5 U	0.5 U
Aroclor-1242.....	0.5 U	0.5 U	0.5 U	0.5 U
Aroclor-1248.....	0.5 U	0.5 U	0.5 U	0.5 U
Aroclor-1254.....	1.0 U	1.0 U	1.0 U	1 U
Aroclor-1260.....	1.0 U	1.0 U	1.0 U	1 U

SOLAR PONDS SURFACE WATER SAMPLES

PESTICIDES/PCB

CLP LIST

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

Page: 3

Sample Information

RFW Batch ID:	8608-055-002	8608-055-003	8608-055-004	8608-057-006
Customer ID:	SWA2088600	SWA3088600	SWA4088600	SWB1088600
Matrix:	Water	Water	Water	Water
Units:	UG/L	UG/L	UG/L	UG/L
Dilution Factor:	1	1	1	1

Surrogate Recovery

Di-n-butylchloroendate:	66 %	66 %	82 %	78 %
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Analytes

Alpha-BHC.....	0.05 U	0.05 U	0.05 U	0.05 U
Beta-BHC.....	0.05 U	0.05 U	0.05 U	0.05 U
Delta-BHC.....	0.05 U	0.05 U	0.05 U	0.05 U
Gamma-BHC (Lindane).....	0.05 U	0.05 U	0.05 U	0.05 U
Heptachlor.....	0.05 U	0.05 U	0.05 U	0.05 U
Aldrin.....	0.05 U	0.05 U	0.05 U	0.05 U
Heptachlor Epoxide.....	0.05 U	0.05 U	0.05 U	0.05 U
Endosulfan I.....	0.05 U	0.05 U	0.05 U	0.05 U
Dieldrin.....	0.1 U	0.1 U	0.1 U	0.1 U
4,4'-DDE.....	0.1 U	0.1 U	0.1 U	0.1 U
Endrin.....	0.1 U	0.1 U	0.1 U	0.1 U
Endosulfan II.....	0.1 U	0.1 U	0.1 U	0.1 U
4,4'-DDD.....	0.1 U	0.1 U	0.1 U	0.1 U
Endosulfan Sulfate.....	0.1 U	0.1 U	0.1 U	0.1 U
4,4'-DDT.....	0.1 U	0.1 U	0.1 U	0.1 U
Methoxychlor.....	0.5 U	0.5 U	0.5 U	0.5 U
Endrin Ketone.....	0.1 U	0.1 U	0.1 U	0.1 U
Chlordane.....	0.5 U	0.5 U	0.5 U	0.5 U
Toxaphene.....	1 U	1 U	1 U	1.0 U
Aroclor-1016.....	0.5 U	0.5 U	0.5 U	0.5 U
Aroclor-1221.....	0.5 U	0.5 U	0.5 U	0.5 U
Aroclor-1232.....	0.5 U	0.5 U	0.5 U	0.5 U
Aroclor-1242.....	0.5 U	0.5 U	0.5 U	0.5 U
Aroclor-1248.....	0.5 U	0.5 U	0.5 U	0.5 U
Aroclor-1254.....	1 U	1 U	1 U	1.0 U
Aroclor-1260.....	1 U	1 U	1 U	1.0 U

SOLAR PONDS SURFACE WATER SAMPLES
PESTICIDES/PCB
CLP LIST

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

Page: 4

Sample Information

RFW Batch ID:	8608-057-001	8608-057-002	8608-057-003	8608-058-002
Customer ID:	SWB2088600	SWB3088600	SWB4088600	SWB5088600
Matrix:	Water	Water	Water	Water
Units:	UG/L	UG/L	UG/L	UG/L
Dilution Factor:	1	1	1	1

Surrogate Recovery

Di-n-butylchloroendate:	90 %	95 %	96 %	93 %
-------------------------	------	------	------	------

Analytes

Alpha-BHC.....	0.05 U	0.05 U	0.05 U	0.05 U
Beta-BHC.....	0.05 U	0.05 U	0.05 U	0.05 U
Delta-BHC.....	0.05 U	0.05 U	0.05 U	0.05 U
Gamma-BHC (Lindane).....	0.05 U	0.05 U	0.05 U	0.05 U
Heptachlor.....	0.05 U	0.05 U	0.05 U	0.05 U
Aldrin.....	0.05 U	0.05 U	0.05 U	0.05 U
Heptachlor Epoxide.....	0.05 U	0.05 U	0.05 U	0.05 U
Endosulfan I.....	0.05 U	0.05 U	0.05 U	0.05 U
Dieldrin.....	0.1 U	0.1 U	0.1 U	0.1 U
4,4'-DDE.....	0.1 U	0.1 U	0.1 U	0.1 U
Endrin.....	0.1 U	0.1 U	0.1 U	0.1 U
Endosulfan II.....	0.1 U	0.1 U	0.1 U	0.1 U
4,4'-DDD.....	0.1 U	0.1 U	0.1 U	0.1 U
Endosulfan Sulfate.....	0.1 U	0.1 U	0.1 U	0.1 U
4,4'-DDT.....	0.1 U	0.1 U	0.1 U	0.1 U
Methoxychlor.....	0.5 U	0.5 U	0.5 U	0.5 U
Endrin Ketone.....	0.1 U	0.1 U	0.1 U	0.1 U
Chlordane.....	0.5 U	0.5 U	0.5 U	0.5 U
Toxaphene.....	1.0 U	1.0 U	1.0 U	1.0 U
Aroclor-1016.....	0.5 U	0.5 U	0.5 U	0.5 U
Aroclor-1221.....	0.5 U	0.5 U	0.5 U	0.5 U
Aroclor-1232.....	0.5 U	0.5 U	0.5 U	0.5 U
Aroclor-1242.....	0.5 U	0.5 U	0.5 U	0.5 U
Aroclor-1248.....	0.5 U	0.5 U	0.5 U	0.5 U
Aroclor-1254.....	1.0 U	1.0 U	1.0 U	1.0 U
Aroclor-1260.....	1.0 U	1.0 U	1.0 U	1.0 U

RADIONUCLIDES

**SOLAR POND CLOSURE CHARACTERIZATION REPORT
ROCKY FLATS PLANT, GOLDEN, COLORADO**

1 JULY 1988

APPENDICES

WESTON ANALYTICS: Radio Chemistry

June 28, 1988

Page: 1

List: Customer ID's: All

RFW Batch ID	Customer ID	Laboratory ID
0387-881-126	SW-59-07-21-87	
0387-881-127	SW-60-07-21-87	
0387-881-128	SW-61-07-22-87	
1000-000-369	SW03088600	22548-8-6
1000-000-371	SW17088600	22509-14-12
1000-000-373	SW18088600	22581-6-2
1000-000-375	SW21088600	22542-7-2
1000-000-377	SW23088600	22542-7-4
1000-000-378	SW24088600	22542-7-5
1000-000-379	SW25088600	22542-7-6
1000-000-391	SWA1088600	22511-10-4
1000-000-393	SWA2088600	22511-10-6
1000-000-394	SWA3088600	22511-10-7
1000-000-395	SWA4088600	22511-10-8
1000-000-396	SWB1088600	22523-6-6
1000-000-398	SWB2088600	22523-6-3
1000-000-399	SWB3088600	22523-6-5
1000-000-400	SWB4088600	22523-6-1
1000-000-401	SWB5088600	22528-5-2

SOLAR PONDS SURFACE WATER SAMPLES
RADIOCHEMISTRY
DATA SUMMARY REPORT

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

Page: 1

Sample Information

RFW Batch ID:	0387-881-126	0387-881-127
Customer ID:	SW-59-07-21-87	SW-60-07-21-87
Matrix:	Water	Water

Radio Chemistry

Gross Alpha.....	26 +/- 6	pci/l	8 +/- 18	pci/l	17 +/- 12	pci/l
Gross Beta.....	28 +/- 6	pci/l	33 +/- 24	pci/l	41 +/- 14	pci/l
Uranium 233, 234.....	3.1 +/- 1.2	pci/l	1.7 +/- 1.0	pci/l	.85 +/- .89	pci/l
Uranium 235.....	.01 +/- .45	pci/l	.37 +/- .44	pci/l	.21 +/- .40	pci/l
Uranium 238.....	5.6 +/- 1.4	pci/l	2.2 +/- 0.8	pci/l	.93 +/- .75	pci/l
Strontium 89, 90.....	1.0 +/-	pci/l	<1.0 +/-	pci/l	<1.0 +/-	pci/l
Plutonium 239, 240.....	0.0 +/- .93	pci/l	0.0 +/- 1.1	pci/l	0.0 +/- .82	pci/l
Americium 241.....	0.03 +/- 1.4	pci/l	0.0 +/- 1.2	pci/l	0.0 +/- 1.2	pci/l
Cesium 137.....	<1.0 +/-	pci/l	<1.0 +/-	pci/l	<1.0 +/-	pci/l
Tritium.....	<110 +/-	pci/l	<110 +/-	pci/l	<110 +/-	pci/l

Sample Information

RFW Batch ID:	1000-000-369	1000-000-371
Customer ID:	SW03088600	SW17088600
Matrix:	Water	Water

Radio Chemistry

Gross Alpha.....	2 +/- 3	pci/l	6 +/- 10	pci/l	4 +/- 5	pci/l
Gross Beta.....	3 +/- 3	pci/l	4 +/- 5	pci/l	2 +/- 4	pci/l
Uranium 233, 234.....	0.63 +/- 0.22	pci/l	3.3 +/- 0.4	pci/l	1.9 +/- 0.5	pci/l
Uranium 235.....	NR		NR		NR	
Uranium 238.....	0.60 +/- 0.20	pci/l	2.9 +/- 0.4	pci/l	1.4 +/- 0.5	pci/l
Strontium 89, 90.....	NR		NR		NR	
Plutonium 239, 240.....	-0.04 +/- 0.17	pci/l	0.00 +/- 0.03	pci/l	-0.03 +/- 0.05	pci/l
Americium 241.....	0.02 +/- 0.03	pci/l	0.00 +/- 0.02	pci/l	0.04 +/- 0.04	pci/l
Cesium 137.....	NR		NR		NR	
Tritium.....	-0.09 +/- 0.24	pci/l	0.19 +/- 0.22	pci/l	0.07 +/- 0.21	pci/l

SOLAR PONDS SURFACE WATER SAMPLES
RADIOCHEMISTRY
DATA SUMMARY REPORT

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

Page: 2

Sample Information

RFW Batch ID:	1000-000-375	1000-000-377	1000-000-378
Customer ID:	SW21088600	SW23088600	SW24088600
Matrix:	Water	Water	Water

Radio Chemistry

Gross Alpha.....	9 +/- 7	pCi/l	0 +/- 4	pCi/l	5 +/- 4	pCi/l
Gross Beta.....	2 +/- 5	pCi/l	5 +/- 3	pCi/l	3 +/- 3	pCi/l
Uranium 233, 234.....	3.2 +/- 0.4	pCi/l	1.6 +/- 0.3	pCi/l	2.1 +/- 0.4	pCi/l
Uranium 235.....	NR		NR		NR	
Uranium 238.....	3.4 +/- 0.4	pCi/l	1.6 +/- 0.3	pCi/l	2.2 +/- 0.4	pCi/l
Strontium 89, 90.....	NR		NR		NR	
Plutonium 239, 240.....	0.03 +/- 0.05	pCi/l	0.03 +/- 0.05	pCi/l	-0.02 +/- 0.09	pCi/l
Americium 241.....	0.01 +/- 0.03	pCi/l	0.00 +/- 0.02	pCi/l	0.01 +/- 0.02	pCi/l
Cesium 137.....	NR		NR		NR	
Tritium.....	0.07 +/- 0.24	pCi/l	0.05 +/- 0.24	pCi/l	-0.04 +/- 0.24	pCi/l

Sample Information

RFW Batch ID:	1000-000-379	1000-000-391	1000-000-393
Customer ID:	SW25088600	SWA1088600	SWA2088600
Matrix:	Water	Water	Water

Radio Chemistry

Gross Alpha.....	6 +/- 5	pCi/l	10 +/- 9	pCi/l	7 +/- 14	pCi/l
Gross Beta.....	9 +/- 4	pCi/l	12 +/- 5	pCi/l	23 +/- 8	pCi/l
Uranium 233, 234.....	1.8 +/- 0.3	pCi/l	1.4 +/- 0.3	pCi/l	6.4 +/- 0.7	pCi/l
Uranium 235.....	NR		NR		NR	
Uranium 238.....	1.5 +/- 0.3	pCi/l	1.3 +/- 0.2	pCi/l	5.8 +/- 0.7	pCi/l
Strontium 89, 90.....	NR		NR		NR	
Plutonium 239, 240.....	0.05 +/- 0.07	pCi/l	0.24 +/- 0.14	pCi/l	0.17 +/- 0.06	pCi/l
Americium 241.....	-0.01 +/- 0.05	pCi/l	0.02 +/- 0.03	pCi/l	0.05 +/- 0.04	pCi/l
Cesium 137.....	NR		NR		NR	
Tritium.....	-0.04 +/- 0.24	pCi/l	0.16 +/- 0.22	pCi/l	0.09 +/- 0.22	pCi/l

SOLAR PONDS SURFACE WATER SAMPLES
RADIOCHEMISTRY
DATA SUMMARY REPORT

RFW Batch Number: Client: ROCKWELL (ROCKY FLATS) Page: 3

Sample Information

RFW Batch ID:	1000-000-394	1000-000-395	1000-000-396
Customer ID:	SWA3088600	SWA4088600	SWB1088600
Matrix:	Water	Water	Water

Radio Chemistry

Gross Alpha.....	18 +/- 10	pCi/l	2 +/- 2	pCi/l	65 +/- 12	pCi/l
Gross Beta.....	14 +/- 5	pCi/l	5 +/- 2	pCi/l	26 +/- 5	pCi/l
Uranium 233, 234.....	3.0 +/- 0.4	pCi/l	0.81 +/- 0.19	pCi/l	6.4 +/- 0.6	pCi/l
Uranium 235.....	NR		NR		NR	
Uranium 238.....	2.1 +/- 0.3	pCi/l	0.49 +/- 0.16	pCi/l	9.6 +/- 0.8	pCi/l
Strontium 89, 90.....	NR		NR		NR	
Plutonium 239, 240.....	0.03 +/- 0.06	pCi/l	0.00 +/- 0.07	pCi/l	4.2 +/- 0.6	pCi/l
Americium 241.....	0.01 +/- 0.02	pCi/l	0.05 +/- 0.04	pCi/l	-0.01 +/- 0.04	pCi/l
Cesium 137.....	NR		NR		NR	
Tritium.....	0.03 +/- 0.22	pCi/l	0.10 +/- 0.22	pCi/l	0.01 +/- 0.22	pCi/l

Sample Information

RFW Batch ID:	1000-000-398	1000-000-399	1000-000-400
Customer ID:	SWB2088600	SWB3088600	SWB4088600
Matrix:	Water	Water	Water

Radio Chemistry

Gross Alpha.....	9 +/- 5	pCi/l	0 +/- 2	pCi/l	7 +/- 5	pCi/l
Gross Beta.....	6 +/- 4	pCi/l	11 +/- 3	pCi/l	4 +/- 3	pCi/l
Uranium 233, 234.....	0.50 +/- 0.16	pCi/l	0.12 +/- 0.10	pCi/l	1.5 +/- 0.3	pCi/l
Uranium 235.....	NR		NR		NR	
Uranium 238.....	0.65 +/- 0.18	pCi/l	0.07 +/- 0.07	pCi/l	2.1 +/- 0.3	pCi/l
Strontium 89, 90.....	NR		NR		NR	
Plutonium 239, 240.....	0.37 +/- 0.19	pCi/l	0.08 +/- 0.08	pCi/l	0.01 +/- 0.04	pCi/l
Americium 241.....	0.15 +/- 0.08	pCi/l	-0.01 +/- 0.04	pCi/l	-0.02 +/- 0.04	pCi/l
Cesium 137.....	NR		NR		NR	
Tritium.....	0.01 +/- 0.22	pCi/l	-0.12 +/- 0.22	pCi/l	0.21 +/- 0.22	pCi/l

SOLAR PONDS SURFACE WATER SAMPLES
RADIOCHEMISTRY
DATA SUMMARY REPORT

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RFW Batch Number: Client: ROCKWELL (ROCKY FLATS) Page: 4

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Sample Information

RFW Batch ID: 1000-000-401
Customer ID: SWB5088600
Matrix: Water

Radio Chemistry

Gross Alpha.....	1 +/- 3	pCi/l
Gross Beta.....	5 +/- 3	pCi/l
Uranium 233, 234.....	2.6 +/- 0.4	pCi/l
Uranium 235.....	NR	
Uranium 238.....	2.0 +/- 0.3	pCi/l
Strontium 89, 90.....	NR	
Plutonium 239, 240.....	0.00 +/- 0.04	pCi/l
Americium 241.....	-0.02 +/- 0.04	pCi/l
Cesium 137.....	NR	
Tritium.....	0.19 +/- 0.22	pCi/l

INORGANICS

SOLAR POND CLOSURE CHARACTERIZATION REPORT
ROCKY FLATS PLANT, GOLDEN, COLORADO

1 JULY 1988

APPENDICES

WESTON ANALYTICS: Inorganics

June 28, 1988

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List: Customer ID's: All

RFW Batch ID	Customer ID	Laboratory ID
0387-881-011	SW-59-07-21-87	
0387-881-012	SW-60-07-21-87	
0387-881-013	SW-61-07-22-87	
8608-044-023	SW03088600	
8608-024-004	SW17088600	
8608-056-008	SW18088600	
8608-041-028	SW21088600	
8608-041-038	SW23088600	
8608-041-043	SW24088600	
8608-041-048	SW25088600	
8608-029-004	SWA1088600	
8608-029-010	SWA2088600	
8608-029-022	SWA4088600	
8608-033-003	SWB1088600	
8608-033-008	SWB2088600	
8608-033-013	SWB3088600	
8608-033-018	SWB4088600	
8608-036-040	SWB5088600	

SOLAR PONDS SURFACE WATER SAMPLES
INORGANIC
DATA SUMMARY REPORT

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

Page: 1

Sample Information

RFW Batch ID:	0387-881-011	0387-881-012	0387-881-013
Customer ID:	SW-59-07-21-87	SW-60-07-21-87	SW-61-07-22-87
Matrix:	Water	Water	Water

Inorganics

CO ₃ = as CaCO ₃						
HCO ₃ - as CaCO ₃	335	mg/l	290	mg/l	83.3	mg/l
Chloride.....	39.0	mg/l	44.0	mg/l	12.0	mg/l
Sulfate.....	24.5	mg/l	45.0	mg/l	31.1	mg/l
pH.....						
Fluoride.....						
Nitrate-Nitrite-Nitrogen.....	3.80	mg/l	4.5	mg/l	0.25	mg/l
Sulfide.....						
Phosphate.....						
Cyanide, Total.....	1.0	U mg/l	1.0	U mg/l	1.0	U mg/l
Hexavalent Chromium (Cr+6).....	1.0	U mg/l	1.0	U mg/l	1.0	U mg/l
Total Dissolved Solids.....	524	mg/l	482	mg/l	156	mg/l
Total Suspended Solids.....	8	mg/l	1	U mg/l	8	mg/l
% Solids.....						

Sample Information

RFW Batch ID:	8608-044-023	8608-024-004	8608-056-008
Customer ID:	SW03088600	SW17088600	SW18088600
Matrix:	Water	Water	Water

Inorganics

CO ₃ = as CaCO ₃						
HCO ₃ - as CaCO ₃						
Chloride.....	15	mg/l	51	mg/l	29	mg/l
Sulfate.....	39	mg/l	94	mg/l	58	mg/l
pH.....						
Fluoride.....						
Nitrate-Nitrite-Nitrogen.....	5.0	U mg/l	17.2	mg/l	5.0	U mg/l
Sulfide.....						
Phosphate.....						
Cyanide, Total.....	0.005	U mg/l	0.0010	U mg/l	0.005	U mg/l
Hexavalent Chromium (Cr+6).....	10	U mg/l	10	U mg/l	10	U mg/l
Total Dissolved Solids.....	180	mg/l	530	mg/l	439	mg/l
Total Suspended Solids.....						
% Solids.....						

SOLAR PONDS SURFACE WATER SAMPLES
INORGANIC
DATA SUMMARY REPORT

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

Page: 2

Sample Information

RFW Batch ID:	8608-041-028	8608-041-038	8608-041-043
Customer ID:	SW21088600	SW23088600	SW24088600
Matrix:	Water	Water	Water

Inorganics

CO ₃ = as CaCO ₃						
HCO ₃ - as CaCO ₃						
Chloride.....	47	mg/l	27	mg/l	29	mg/l
Sulfate.....	50	mg/l	50	mg/l	44	mg/l
pH.....						
Fluoride.....						
Nitrate-Nitrite-Nitrogen.....	5.0	mg/l	7.5	mg/l	7.0	mg/l
Sulfide.....						
Phosphate.....						
Cyanide, Total.....	0.005	U mg/l	0.005	U mg/l	0.005	U mg/l
Hexavalent Chromium (Cr+6).....	10	U mg/l	10	U mg/l	10	U mg/l
Total Dissolved Solids.....	420	mg/l	290	mg/l	270	mg/l
Total Suspended Solids.....						
% Solids.....						

Sample Information

RFW Batch ID:	8608-041-048	8608-029-004	8608-029-010
Customer ID:	SW25088600	SWA1088600	SWA2088600
Matrix:	Water	Water	Water

Inorganics

CO ₃ = as CaCO ₃						
HCO ₃ - as CaCO ₃						
Chloride.....	29	mg/l	82	mg/l	156	mg/l
Sulfate.....	51	mg/l	53	mg/l	212	mg/l
pH.....						
Fluoride.....						
Nitrate-Nitrite-Nitrogen.....	5.0	U mg/l	5.0	U mg/l	5.0	U mg/l
Sulfide.....						
Phosphate.....						
Cyanide, Total.....	0.005	U mg/l	0.001	U mg/l	0.0013	mg/l
Hexavalent Chromium (Cr+6).....	10	U mg/l	10	U mg/l	10	U mg/l
Total Dissolved Solids.....	260	mg/l	534	mg/l	1070	mg/l
Total Suspended Solids.....						
% Solids.....						

SOLAR PONDS SURFACE WATER SAMPLES
INORGANIC
DATA SUMMARY REPORT

RFW Batch Number: Client: ROCKWELL (ROCKY FLATS) Page: 3

Sample Information

RFW Batch ID:	8608-029-022	8608-033-003	8608-033-008
Customer ID:	SWA4088600	SWB1088600	SWB2088600
Matrix:	Water	Water	Water

Inorganics

CO ₃ = as CaCO ₃						
HCO ₃ - as CaCO ₃						
Chloride.....	21	mg/l	15	mg/l	64	mg/l
Sulfate.....	30	mg/l	41	mg/l	16	mg/l
pH.....						
Fluoride.....						
Nitrate-Nitrite-Nitrogen.....	5.0	U mg/l	5.0	U mg/l	5.0	U mg/l
Sulfide.....						
Phosphate.....						
Cyanide, Total.....	0.001	U mg/l	0.005	U mg/l	0.005	U mg/l
Hexavalent Chromium (Cr+6).....	10	U mg/l	10	U mg/l	10	U mg/l
Total Dissolved Solids.....	279	mg/l	230	mg/l	270	mg/l
Total Suspended Solids.....						
% Solids.....						

Sample Information

RFW Batch ID:	8608-033-013	8608-033-018	8608-036-040
Customer ID:	SWB3088600	SWB4088600	SWB5088600
Matrix:	Water	Water	Water

Inorganics

CO ₃ = as CaCO ₃						
HCO ₃ - as CaCO ₃						
Chloride.....	26	mg/l	31	mg/l	31	mg/l
Sulfate.....	48	mg/l	43	mg/l	56	mg/l
pH.....						
Fluoride.....						
Nitrate-Nitrite-Nitrogen.....	13.4	mg/l	5.0	U mg/l	5.0	U mg/l
Sulfide.....						
Phosphate.....						
Cyanide, Total.....	0.025	mg/l	0.005	U mg/l	0.005	U mg/l
Hexavalent Chromium (Cr+6).....	10	U mg/l	10	U mg/l	10	U mg/l
Total Dissolved Solids.....	220	mg/l	220	mg/l	28	mg/l
Total Suspended Solids.....						
% Solids.....						

METALS

**SOLAR POND CLOSURE CHARACTERIZATION REPORT
ROCKY FLATS PLANT, GOLDEN, COLORADO**

1 JULY 1988

APPENDICES

WESTON ANALYTICS: Metals

June 28, 1988

Page: 1

List: Customer ID's: All

RFW Batch ID	Customer ID	Laboratory ID
0387-881-011	SW-59-07-21-87	
0387-881-013	SW-61-07-22-87	
8608-044-022	SW03088600	
8608-024-003	SW17088600	
8608-056-007	SW18088600	
8608-041-027	SW21088600	
8608-041-037	SW23088600	
8608-041-042	SW24088600	
8608-041-047	SW25088600	
8608-029-003	SWA1088600	
8608-029-009	SWA2088600	
8608-029-021	SWA4088600	
8608-033-002	SWB1088600	
8608-033-007	SWB2088600	
8608-033-012	SWB3088600	
8608-033-017	SWB4088600	
8608-036-039	SWB5088600	

SOLAR PONDS SURFACE WATER SAMPLES
METALS
INORGANICS DATA SUMMARY REPORT

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

Page: 1

Sample Information

RFW Batch ID:	0387-881-011	0387-881-013	8608-044-022	8608-024-003
Customer ID:	SW-59-07-21-87	SW-61-07-22-87	SW03088600	SW17088600
Matrix:	Water	Water	Water	Water
Units:	MG/L	MG/L	MG/L	MG/L

Metals

Silver (Ag), total.....	0.01 U	0.01 U	0.010 U	0.010 U
Aluminum (Al), total.....	0.2 U	0.2 U	0.100 U	0.100 U
Arsenic (As), total.....			0.002 U	0.001 U
Barium (Ba), total.....	0.2 U	0.2 U	0.100 U	0.340
Beryllium (Be), total.....			0.090	0.005 U
Calcium (Ca), total.....	122	30.1	47.5	85.5
Cadmium (Cd), total.....			0.005 U	0.005 U
Cobalt (Co), total.....	0.05 U	0.05 U	0.050 U	0.050 U
Chromium (Cr), total.....	0.01 U	0.01 U	0.010 U	0.005 U
Cesium (Cs), total.....			0.100 U	0.100 U
Copper (Cu), total.....	0.025 U	0.025 U	0.030	0.020
Iron (Fe), total.....	0.1 U	0.18	0.075 U	0.030 U
Mercury (Hg), total.....			0.0002 U	0.0008
Potassium (K), total.....			0.100 U	26.4
Lithium (Li), total.....				
Magnesium (Mg), total.....	24.4	5.0 U	6.0	24.2
Manganese (Mn), total.....	0.015 U	0.047	0.020	0.660
Molybdenum(Mo), total.....	0.04 U	0.04 U	0.300	0.100 U
Sodium (Na), total.....	38.2	17.9	23.2	53.2
Nickel (Ni), total.....	0.04 U	0.04 U	0.040 U	0.040 U
Lead (Pb), total.....			0.010 U	0.005 U
Antimony (Sb), total.....			0.050 U	0.020 U
Selenium (Se), total.....			0.002 U	0.0016
Strontium (Sr), total.....	0.73	0.02 U	0.360	0.760
Thallium (Tl), total.....			0.010 U	0.029
Vanadium (V), total.....	0.05 U	0.05 U	0.313	0.005 U
Zinc (Zn), total.....	0.31	0.05	0.300	0.090

Modifiers: U=Analyzed, not detected. J=Present below detection limit. B=Present in blank. NS=Not spiked. %=%Percent recovery.

SOLAR PONDS SURFACE WATER SAMPLES
METALS
INORGANICS DATA SUMMARY REPORT

=====
RFW Batch Number: Client: ROCKWELL (ROCKY FLATS) Page: 2
=====

Sample Information

RFW Batch ID:	8608-056-007	8608-041-027	8608-041-037	8608-041-042
Customer ID:	SW18088600	SW21088600	SW23088600	SW24088600
Matrix:	Water	Water	Water	Water
Units:	UG/L	MG/L	MG/L	MG/L

Metals

Silver (Ag), total.....	0.010 U	0.010 U	0.010 U	0.010 U
Aluminum (Al), total.....	0.100 U	0.100 U	0.100 U	0.100 U
Arsenic (As), total.....	0.002 U	0.002 U	0.002 U	0.002 U
Barium (Ba), total.....	0.100 U	0.100 U	0.100 U	0.100 U
Beryllium (Be), total.....	0.005 U	0.170	0.130	0.140
Calcium (Ca), total.....	130	173	78.8	76
Cadmium (Cd), total.....	0.005 U	0.005 U	0.005 U	0.005 U
Cobalt (Co), total.....	0.050 U	0.050 U	0.050 U	0.050
Chromium (Cr), total.....	0.010 U	0.010 U	0.010 U	0.010 U
Cesium (Cs), total.....	0.100 U	0.100 U	0.100 U	0.100 U
Copper (Cu), total.....	0.020 U	0.020 U	0.020 U	0.020 U
Iron (Fe), total.....	2.17	0.075 U	0.600	0.200
Mercury (Hg), total.....	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Potassium (K), total.....	3.1	0.100 U	0.100 U	0.200
Lithium (Li), total.....				
Magnesium (Mg), total.....	29	24	18.1	16
Manganese (Mn), total.....	0.410	0.060	0.020	0.030
Molybdenum(Mo), total.....	0.100 U	0.300	0.400	0.500
Sodium (Na), total.....	37	31.1	235	32.5
Nickel (Ni), total.....	0.040 U	0.040 U	0.040 U	0.040 U
Lead (Pb), total.....	0.005 U	0.010 U	0.010 U	0.010 U
Antimony (Sb), total.....	0.050 U	0.050 U	0.050 U	0.050 U
Selenium (Se), total.....	0.002 U	0.002 U	0.002 U	0.002 U
Strontium (Sr), total.....	0.640	0.540	0.310	0.340
Thallium (Tl), total.....	0.010 U	0.010 U	0.010 U	0.010 U
Vanadium (V), total.....	0.050 U	0.050 U	0.050 U	0.050 U
Zinc (Zn), total.....	0.020 U	0.128	0.020 U	0.027

Modifiers: U=Analyzed, not detected. J=Present below detection limit. B=Present in blank. NS=Not spiked. %=Percent recovery.

SOLAR PONDS SURFACE WATER SAMPLES
METALS
INORGANICS DATA SUMMARY REPORT

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

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Sample Information

RFW Batch ID:	8608-041-047	8608-029-003	8608-029-009	8608-029-021
Customer ID:	SW25088600	SWA1088600	SWA2088600	SWA4088600
Matrix:	Water	Water	Water	Water
Units:	MG/L	MG/L	MG/L	MG/L

Metals

Silver (Ag), total.....	0.010 U	0.010 U	0.010 U	0.010 U
Aluminum (Al), total.....	0.100 U	0.150	0.580	0.100 U
Arsenic (As), total.....	0.002 U	0.002	0.002	0.001 U
Barium (Ba), total.....	0.100 U	0.150	0.170	0.120
Beryllium (Be), total.....	0.020	0.005 U	0.005 U	0.005 U
Calcium (Ca), total.....	70.1	26.9	86.1	16.4
Cadmium (Cd), total.....	0.005 U	0.005 U	0.005 U	0.005 U
Cobalt (Co), total.....	0.070	0.050 U	0.050 U	0.050 U
Chromium (Cr), total.....	0.010 U	0.009	0.022	0.010
Cesium (Cs), total.....	0.100 U	0.100 U	0.100 U	0.100 U
Copper (Cu), total.....	0.020 U	0.020 U	0.020 U	0.020 U
Iron (Fe), total.....	0.075 U	0.080	0.240	0.030 U
Mercury (Hg), total.....	0.0002 U	0.0002 U	0.0014	0.0002 U
Potassium (K), total.....	0.200	36.9	72.7	15.5
Lithium (Li), total.....				
Magnesium (Mg), total.....	0.110	10.8	20.3	4.55
Manganese (Mn), total.....	0.160	0.010 U	0.080	0.020
Molybdenum(Mo), total.....	0.500	0.100 U	0.100 U	0.100 U
Sodium (Na), total.....	25.4	104	193	14.8
Nickel (Ni), total.....	0.040 U	0.040 U	0.040 U	0.040 U
Lead (Pb), total.....	0.010 U	0.005	0.005	0.008
Antimony (Sb), total.....	0.0050 U	0.020 U	0.020 U	0.020
Selenium (Se), total.....	0.002 U	0.002 U	0.002 U	0.002 U
Strontium (Sr), total.....	0.350	0.200	0.360	0.150
Thallium (Tl), total.....	0.010 U	0.010 U	0.015	0.010 U
Vanadium (V), total.....	0.050 U	0.005 U	0.005 U	0.005 U
Zinc (Zn), total.....	0.696	4.21	4.2	0.040

Modifiers: U=Analyzed, not detected. J=Present below detection limit. B=Present in blank. NS=Not spiked. %=Percent recovery.

SOLAR PONDS SURFACE WATER SAMPLES

METALS

INORGANICS DATA SUMMARY REPORT

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

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Sample Information

RFW Batch ID:	8608-033-002	8608-033-007	8608-033-012	8608-033-017
Customer ID:	SWB1088600	SWB2088600	SWB3088600	SWB4088600
Matrix:	Water	Water	Water	Water
Units:	MG/L	MG/L	MG/L	MG/L

Metals

Silver (Ag), total.....	0.010 U	0.010 U	0.010 U	0.010 U
Aluminum (Al), total.....	0.120	0.100 U	0.110	0.100 U
Arsenic (As), total.....	0.002 U	0.002 U	0.002 U	0.002 U
Barium (Ba), total.....	0.130	0.130	0.100	0.180
Beryllium (Be), total.....	0.005 U	0.005 U	0.005 U	0.005 U
Calcium (Ca), total.....	21.5	9.510	17.9	33.2
Cadmium (Cd), total.....	0.005 U	0.005 U	0.005 U	0.005 U
Cobalt (Co), total.....	0.050 U	0.050 U	0.050 U	0.050 U
Chromium (Cr), total.....	0.005 U	0.005 U	0.005 U	0.005 U
Cesium (Cs), total.....	0.100 U	0.100 U	0.100 U	0.100 U
Copper (Cu), total.....	0.0200 U	0.140	0.020 U	0.020 U
Iron (Fe), total.....	0.140	0.110	0.150	0.030 U
Mercury (Hg), total.....	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Potassium (K), total.....	9.45	5.51	11	9.45
Lithium (Li), total.....				
Magnesium (Mg), total.....	7.4	7.47	2.88	9.54
Manganese (Mn), total.....	0.040	0.010 U	0.010	0.070
Molybdenum(Mo), total.....	0.100 U	0.100 U	0.100 U	0.100 U
Sodium (Na), total.....	16.8	49.3	20.9	26.4
Nickel (Ni), total.....	0.040 U	0.040 U	0.040 U	0.040 U
Lead (Pb), total.....	0.010 U	0.010 U	0.010 U	0.010 U
Antimony (Sb), total.....	0.020 U	0.020 U	0.020 U	0.020 U
Selenium (Se), total.....	0.002 U	0.002 U	0.002 U	0.002 U
Strontium (Sr), total.....	0.200	0.150	0.090	0.310
Thallium (Tl), total.....	0.017	0.015	0.011	0.021
Vanadium (V), total.....	0.005 U	0.005 U	0.005 U	0.005 U
Zinc (Zn), total.....	0.020	0.110	0.580	0.360

Modifiers: U=Analyzed, not detected. J=Present below detection limit. B=Present in blank. NS=Not spiked. %=%Percent recovery.

SOLAR PONDS SURFACE WATER SAMPLES
METALS
INORGANICS DATA SUMMARY REPORT

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

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Sample Information

RFW Batch ID: 8608-036-039
Customer ID: SW85088600
Matrix: Water
Units: MG/L

Metals

Silver (Ag), total.....	0.010 U
Aluminum (Al), total.....	0.100 U
Arsenic (As), total.....	0.002 U
Barium (Ba), total.....	0.220
Beryllium (Be), total.....	0.120
Calcium (Ca), total.....	29.5
Cadmium (Cd), total.....	0.005 U
Cobalt (Co), total.....	0.080
Chromium (Cr), total.....	0.015
Cesium (Cs), total.....	0.100 U
Copper (Cu), total.....	0.020 U
Iron (Fe), total.....	0.170
Mercury (Hg), total.....	0.0002 U
Potassium (K), total.....	0.010 U
Lithium (Li), total.....	
Magnesium (Mg), total.....	8.18
Manganese (Mn), total.....	0.010 J
Molybdenum(Mo), total.....	0.100 U
Sodium (Na), total.....	30.5
Nickel (Ni), total.....	0.040 U
Lead (Pb), total.....	0.010 U
Antimony (Sb), total.....	0.010 U
Selenium (Se), total.....	0.002 U
Strontium (Sr), total.....	0.250
Thallium (Tl), total.....	0.010 U
Vanadium (V), total.....	0.050 U
Zinc (Zn), total.....	0.005 U

Modifiers: U=Analyzed, not detected. J=Present below detection limit. B=Present in blank. NS=Not spiked. %=Percent recovery.

APPENDIX C-5
SEDIMENT ANALYTICAL DATA

**SOLAR POND CLOSURE CHARACTERIZATION REPORT
ROCKY FLATS PLANT, GOLDEN, COLORADO 1 JULY 1988**

APPENDICES

VOLATILE ORGANICS

**SOLAR POND CLOSURE CHARACTERIZATION REPORT
ROCKY FLATS PLANT, GOLDEN, COLORADO**

1 JULY 1988

APPENDICES

WESTON ANALYTICS: Volatiles

May 27, 1988

Page: 1

List: Customer ID's: All

RFW Batch ID	Customer ID	Laboratory ID
8608-041-051	SED0308860	51
8608-024-025	SED0808860	
8608-024-028	SED0908860	28
8608-056-031	SED1008860	31
8608-027-001	SED1108860	01
8608-027-004	SED1208860	04
8608-027-010	SED1308860	10

SOLAR POND SEDIMENT SAMPLES
GC/MS DATA SUMMARY
Volatile HAZARDOUS SUBSTANCE LIST COMPOUNDS

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

Page: 1

Sample Information

RFW Batch ID:	8608-041-051	8608-024-025	8608-024-028	8608-056-031
Customer ID:	SED0308860	SED0808860	SED0908860	SED1008860
Matrix:	Soil	Soil	Soil	Soil
Units:	UG/KG	UG/KG	UG/KG	UG/KG
Dilution Factor:	1.2	1	1	1.08

Surrogate Recovery

Toluene-d8:	98 %	102 %	98 %	94 %
Bromofluorobenzene:	95 %	94 %	109 %	86 %
1,2-Dichloroethane-d4:	89 %	102 %	98 %	68 %

Analytes

Chloromethane.....	10 U	10 U	10 U	11 U
Bromomethane.....	10 U	10 U	10 U	11 U
Vinyl Chloride.....	10 U	10 U	10 U	11 U
Chloroethane.....	10 U	10 U	10 U	11 U
Methylene Chloride.....	90	2 J	1 J	31
Acetone.....	240	114	140	55 B
Carbon Disulfide.....	5 U	5 U	5 U	5 U
1,1-Dichloroethane.....	5 U	5 U	5 U	5 U
1,1-Dichloroethane.....	5 U	5 U	5 U	5 U
Trans-1,2-Dichloroethene.....	5 U	5 U	5 U	5 U
Chloroform.....	5 U	5 U	5 U	5 U
1,2-Dichloroethane.....	5 U	5 U	5 U	5 U
2-Butanone.....	10 U	10 U	10 U	11 U
1,1,1-Trichloroethane.....	5 U	5 U	5 U	5 U
Carbon Tetrachloride.....	5 U	5 U	5 U	5 U
Vinyl Acetate.....	10 U	10 U	10 U	11 U
Bromodichloromethane.....	5 U	5 U	5 U	5 U
1,2-Dichloropropane.....	5 U	5 U	5 U	5 U
Trans-1,3-Dichloropropene.....	5 U	5 U	5 U	5 U
Trichloroethene.....	5 U	5 U	5 U	1 J
Dibromochloromethane.....	5 U	5 U	5 U	5 U
1,1,2-Trichloroethane.....	5 U	5 U	5 U	5 U
Benzene.....	5 U	5 U	5 U	5 U
cis-1,3-Dichloropropene.....	5 U	5 U	5 U	5 U
2-Chloroethylvinylether.....	10 U	10 U	10 U	11 U
Bromoform.....	5 U	5 U	5 U	5 U
4-Methyl-2-pentanone.....	10 U	10 U	10 U	11 U
2-Hexanone.....	10 U	10 U	10 U	11 U
Tetrachloroethene.....	5 U	5 U	5 U	5 U
1,1,2-Tetrachloroethane.....	5 U	5 U	5 U	5 U
Toluene.....	5 U	5 U	5 U	1 BJ
Chlorobenzene.....	5 U	5 U	5 U	5 U
Ethylbenzene.....	5 U	5 U	5 U	5 U
Styrene.....	5 U	5 U	5 U	5 U
Total Xylenes.....	5 U	5 U	5 U	5 U

Modifiers: U=Analyzed, not detected. J=Present below detection limit. B=Present in blank. NS=Not spiked. %=Percent recovery.

SOLAR POND SEDIMENT SAMPLES
GC/MS DATA SUMMARY
Volatile HAZARDOUS SUBSTANCE LIST COMPOUNDS

===== RFW Batch Number: Client: ROCKWELL (ROCKY FLATS) =====

Page: 2

Sample Information

RFW Batch ID:	8608-027-001	8608-027-004	8608-027-010
Customer ID:	SED1108860	SED1208860	SED1308860
Matrix:	Soil	Soil	Soil
Units:	UG/KG	UG/KG	UG/L
Dilution Factor:	1	1	1

Surrogate Recovery

Toluene-d8:	96 %	101 %	94 %
Bromofluorobenzene:	100 %	92 %	104 %
1,2-Dichloroethane-d4:	92 %	89 %	86 %

Analytes

Chloromethane.....	10 U	10 U	10 U
Bromomethane.....	10 U	10 U	10 U
Vinyl Chloride.....	10 U	10 U	10 U
Chloroethane.....	10 U	10 U	10 U
Methylene Chloride.....	2 J	5 U	5 U
Acetone.....	167	39	47 8
Carbon Disulfide.....	5 U	5 U	5 U
1,1-Dichloroethene.....	5 U	5 J	5 U
1,1-Dichloroethane.....	5 U	5 U	5 U
Trans-1,2-Dichloroethene.....	5 U	5 U	5 U
Chloroform.....	5 U	5 U	5 U
1,2-Dichloroethane.....	5 U	5 U	5 U
2-Butanone.....	12	10 U	10 U
1,1,1-Trichloroethane.....	5 U	5 U	5 U
Carbon Tetrachloride.....	5 U	5 U	5 U
Vinyl Acetate.....	10 U	10 U	10 U
Bromodichloromethane.....	5 U	5 U	5 U
1,2-Dichloropropane.....	5 U	5 U	5 U
Trans-1,3-Dichloropropene.....	5 U	5 U	5 U
Trichloroethene.....	5 U	4 J	5 U
Dibromochloromethane.....	5 U	5 U	5 U
1,1,2-Trichloroethane.....	5 U	5 U	5 U
Benzene.....	5 U	3 J	5 U
cis-1,3-Dichloropropene.....	5 U	5 U	5 U
2-Chloroethylvinylether.....	10 U	10 U	10 U
Bromoform.....	5 U	5 U	5 U
4-Methyl-2-pentanone.....	10 U	10 U	10 U
2-Hexanone.....	10 U	10 U	10 U
Tetrachloroethene.....	5 U	5 U	5 U
1,1,2,2-Tetrachloroethane.....	5 U	5 U	5 U
Toluene.....	1 J	5	5 U
Chlorobenzene.....	5 U	4 J	5 U
Ethylbenzene.....	1 J	5 U	5 U
Styrene.....	5 U	5 U	5 U
Total Xylenes.....	7 J	5 U	5 U

Modifiers: U=Analyzed, not detected. J=Present below detection limit. B=Present in blank. NS=Not spiked. % =Percent recovery.

SEMI-VOLATILES

SOLAR POND CLOSURE CHARACTERIZATION REPORT
ROCKY FLATS PLANT, GOLDEN, COLORADO

1 JULY 1988

APPENDICES

WESTON ANALYTICS: Semivolatiles

May 27, 1988

Page: 1

List: Customer ID's: All

RFW Batch ID	Customer ID	Laboratory ID
8608-041-001	SED0308860	
8608-024-003	SED0808860	
8608-024-004	SED0908860	
8608-056-008	SED1008860	
8608-027-001	SED1108860	
8608-027-002	SED1208860	
8608-027-004	SED1308860	

SOLAR POND SEDIMENT SAMPLES

GC/MS DATA SUMMARY

Semivolatile HAZARDOUS SUBSTANCE LIST COMPOUNDS

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

Page: 1

Sample Information

RFW Batch ID:	8608-041-001	8608-024-003	8608-024-004	8608-056-008
Customer ID:	SED0308860	SED0808860	SED0908860	SED1008860
Matrix:	Soil	Soil	Soil	Soil
Units:	UG/KG	UG/KG	UG/KG	UG/KG
Dilution Factor:	38	38	21	40

Surrogate Recovery

2-Fluorophenol:	24 %	57 %	57 %	27 %
Phenol-d5:	21 %	46 %	44 %	33 %
2,4,6-Br ₃ -Phenol:	32 %	63 %	72 %	36 %
Nitrobenzene-d5:	26 %	24 %	42 %	20 %
2-Fluorobiphenyl:	36 %	36 %	72 %	36 %
p-Terphenyl-d14:	24 %	26 %	45 %	36 %

Analytes

Phenol.....	390 U	380 U	210 U	400 U
bis(2-Chloroethyl)Ether.....	390 U	380 U	210 U	400 U
2-Chlorophenol.....	390 U	380 U	210 U	400 U
1,3-Dichlorobenzene.....	390 U	380 U	210 U	400 U
1,4-Dichlorobenzene.....	390 U	380 U	210 U	400 U
Benzyl Alcohol.....	390 U	380 U	210 U	400 U
1,2-Dichlorobenzene.....	390 U	380 U	210 U	400 U
2-Methylphenol.....	390 U	380 U	210 U	400 U
bis(2-Chloroisopropyl)Ether.....	390 U	380 U	210 U	400 U
4-Methylphenol.....	390 U	380 U	210 U	400 U
N-Nitroso-di-n-propylamine.....	390 U	380 U	210 U	400 U
Hexachloroethane.....	390 U	380 U	210 U	400 U
Nitrobenzene.....	390 U	380 U	210 U	400 U
Isophorone.....	390 U	380 U	210 U	400 U
2-Nitrophenol.....	390 U	380 U	210 U	400 U
2,4-Dimethylphenol.....	390 U	380 U	210 U	400 U
Benzoic Acid.....	2000 U	1900 U	1000 U	2000 U
bis(2-Chloroethoxy)Methane.....	390 U	380 U	210 U	400 U
2,4-Dichlorophenol.....	390 U	380 U	210 U	400 U
1,2,4-Trichlorobenzene.....	390 U	380 U	210 U	400 U
Naphthalene.....	390 U	380 U	210 U	400 U
4-Chloroaniline.....	390 U	380 U	210 U	400 U
Hexachlororbutadiene.....	390 U	380 U	210 U	400 U
4-Chloro-3-methylphenol.....	390 U	380 U	210 U	400 U
2-Methylnaphthalene.....	390 U	380 U	210 U	400 U
Hexachlorocyclopentadiene.....	390 U	380 U	210 U	400 U
2,4,6-Trichlorophenol.....	390 U	380 U	210 U	400 U
2,4,5-Trichlorophenol.....	2000 U	1900 U	1000 U	2000 U
2-Chloronaphthalene.....	390 U	380 U	210 U	400 U
2-Nitroaniline.....	2000 U	1900 U	1000 U	2000 U
Dimethyl Phthalate.....	390 U	380 U	210 U	400 U
Acenaphthylene.....	390 U	380 U	210 U	400 U

Modifiers: U=Analyzed, not detected. J=Present below detection limit. B=Present in blank. NS=Not spiked. %=Percent recovery.

SOLAR POND SEDIMENT SAMPLES

GC/MS DATA SUMMARY

Semivolatile HAZARDOUS SUBSTANCE LIST COMPOUNDS

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

Page: 2

Sample Information

RFW Batch ID:	8608-041-001	8608-024-003	8608-024-004	8608-056-008
Customer ID:	SED0308860	SED0808860	SED0908860	SED1008860
Matrix:	Soil	Soil	Soil	Soil
Units:	UG/KG	UG/KG	UG/KG	UG/KG
Dilution Factor:	38	38	21	40

Analytes

3-Nitroaniline.....	2000 U	1900 U	1000 U	2000 U
Acenaphthene.....	390 U	380 U	210 U	400 U
2,4-Dinitrophenol.....	2000 U	1900 U	1000 U	2000 U
4-Nitrophenol.....	2000 U	1900 U	1000 U	2000 U
Dibenzofuran.....	390 U	380 U	210 U	400 U
2,4-Dinitrotoluene.....	390 U	380 U	210 U	400 U
2,6-Dinitrotoluene.....	390 U	380 U	210 U	400 U
Diethylphthalate.....	390 U	380 U	210 U	400 U
4-Chlorophenyl-phenylether.....	390 U	380 U	210 U	400 U
Fluorene.....	390 U	380 U	210 U	400 U
4-Nitroaniline.....	2000 U	1900 U	1000 U	2000 U
4,6-Dinitro-2-methylphenol.....	2000 U	1900 U	1000 U	2000 U
N-Nitrosodiphenylamine.....	1100 B	300 JB	2000 B	440 B
4-Bromophenyl-phenylether.....	390 U	380 U	210 U	400 U
Hexachlorobenzene.....	390 U	380 U	210 U	400 U
Pentachlorophenol.....	2000 U	1900 U	1000 U	2000 U
Phenanthrene.....	390 U	380 U	210 U	400 U
Anthracene.....	390 U	80 J	210 U	400 U
di-n-Butyl Phthalate.....	390 B	380 U	60 J	240 JB
Fluoranthene.....	390 U	380 U	210 U	400 U
Pyrene.....	390 U	380 U	210 U	400 U
Butyl Benzyl Phthalate.....	390 U	380 U	210 U	400 U
3,3'-Dichlorobenzidine.....	780 U	760 U	420 U	800 U
Benzo(a)Anthracene.....	390 U	380 U	210 U	400 U
bis(2-Ethylhexyl)Phthalate.....	190 JB	170 J	170 J	400 U
Chrysene.....	390 U	380 U	210 U	400 U
di-n-Octyl Phthalate.....	390 U	380 U	210 U	400 U
Benzo(b)Fluoranthene.....	390 U	380 U	210 U	400 U
Benzo(k)Fluoranthene.....	390 U	380 U	210 U	400 U
Benzo(a)Pyrene.....	390 U	380 U	210 U	400 U
Indeno(1,2,3-cd)Pyrene.....	390 U	380 U	210 U	400 U
Dibenz(a,h)Anthracene.....	390 U	380 U	210 U	400 U
Benzo(g,h,i)Perylene.....	390 U	380 U	210 U	400 U

Modifiers: U=Analyzed, not detected. J=Present below detection limit. B=Present in blank. NS=Not spiked. %=%Percent recovery.

SOLAR POND SEDIMENT SAMPLES

GC/MS DATA SUMMARY

Semivolatile HAZARDOUS SUBSTANCE LIST COMPOUNDS

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

Page: 3

Sample Information

RFW Batch ID:	8608-027-001	8608-027-002	8608-027-004
Customer ID:	SED1108860	SED1208860	SED1308860
Matrix:	Soil	Soil	Soil
Units:	UG/KG	UG/KG	UG/KG
Dilution Factor:	21	27	46

Surrogate Recovery

2-Fluorophenol:	65 %	44 %	28 %
Phenol-d5:	52 %	37 %	34 %
2,4,6-Br ₃ -Phenol:	88 %	64 %	78 %
Nitrobenzene-d5:	57 %	37 %	24 %
2-Fluorobiphenyl:	79 %	56 %	54 %
p-Terphenyl-d14:	56 %	50 %	55 %

Analytes

Phenol.....	210 U	270 U	460 U
bis(2-Chloroethyl)Ether.....	210 U	270 U	460 U
2-Chlorophenol.....	210 U	270 U	460 U
1,3-Dichlorobenzene.....	210 U	270 U	460 U
1,4-Dichlorobenzene.....	210 U	270 U	460 U
Benzyl Alcohol.....	210 U	270 U	460 U
1,2-Dichlorobenzene.....	210 U	270 U	460 U
2-Methylphenol.....	210 U	270 U	460 U
bis(2-Chloroisopropyl)Ether.....	210 U	270 U	460 U
4-Methylphenol.....	210 U	270 U	460 U
N-Nitroso-di-n-propylamine.....	210 U	270 U	460 U
Hexachloroethane.....	210 U	270 U	460 U
Nitrobenzene.....	210 U	270 U	460 U
Isophorone.....	210 U	270 U	460 U
2-Nitrophenol.....	210 U	270 U	460 U
2,4-Dimethylphenol.....	210 U	270 U	460 U
Benzoic Acid.....	1000 U	1400 U	2300 U
bis(2-Chloroethoxy)Methane.....	210 U	270 U	460 U
2,4-Dichlorophenol.....	210 U	270 U	460 U
1,2,4-Trichlorobenzene.....	210 U	270 U	460 U
Naphthalene.....	210 U	270 U	460 U
4-Chloroaniline.....	210 U	270 U	460 U
Hexachlororbutadiene.....	210 U	270 U	460 U
4-Chloro-3-methylphenol.....	210 U	270 U	460 U
2-Methylnaphthalene.....	210 U	270 U	460 U
Hexachlorocyclopentadiene.....	210 U	270 U	460 U
2,4,6-Trichlorophenol.....	210 U	270 U	460 U
2,4,5-Trichlorophenol.....	1000 U	1400 U	2300 U
2-Chloronaphthalene.....	210 U	270 U	460 U
2-Nitroaniline.....	1000 U	1400 U	2300 U
Dimethyl Phthalate.....	210 U	270 U	460 U
Acenaphthylene.....	210 U	270 U	460 U

Modifiers: U=Analyzed, not detected. J=Present below detection limit. B=Present in blank. NS=Not spiked. %=Percent recovery.

SOLAR POND SEDIMENT SAMPLES

GC/MS DATA SUMMARY

Semivolatile HAZARDOUS SUBSTANCE LIST COMPOUNDS

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

Page: 4

Sample Information

RFW Batch ID:	8608-027-001	8608-027-002	8608-027-004
Customer ID:	SED1108860	SED1208860	SED1308860
Matrix:	Soil	Soil	Soil
Units:	UG/KG	UG/KG	UG/KG
Dilution Factor:	21	27	46

Analytes

3-Nitroaniline.....	1000 U	1400 U	2300 U
Acenaphthene.....	210 U	270 U	460 U
2,4-Dinitrophenol.....	1000 U	1400 U	2300 U
4-Nitrophenol.....	1000 U	1400 U	2300 U
Dibenzofuran.....	210 U	270 U	460 U
2,4-Dinitrotoluene.....	210 U	270 U	460 U
2,6-Dinitrotoluene.....	210 U	270 U	460 U
Diethylphthalate.....	210 U	270 U	460 U
4-Chlorophenyl-phenylether.....	210 U	270 U	460 U
Fluorene.....	210 U	270 U	460 U
4-Nitroaniline.....	1000 U	1400 U	2300 U
4,6-Dinitro-2-methylphenol.....	1000 U	1400 U	2300 U
N-Nitrosodiphenylamine.....	170 JB	240 JB	370 JB
4-Bromophenyl-phenylether.....	210 U	270 U	460 U
Hexachlorobenzene.....	210 U	270 U	460 U
Pentachlorophenol.....	1000 U	1400 U	2300 U
Phenanthrene.....	210 U	270 U	460 U
Anthracene.....	210 U	270 U	460 U
di-n-Butyl Phthalate.....	40 J	50 J	90 J
Fluoranthene.....	210 U	50 J	460 U
Pyrene.....	210 U	50 J	460 U
Butyl Benzyl Phthalate.....	210 U	270 U	460 U
3,3'-Dichlorobenzidine.....	420 U	540 U	920 U
Benz(a)Anthracene.....	210 U	270 U	460 U
bis(2-Ethylhexyl)Phthalate.....	40 J	160 J	180 J
Chrysene.....	210 U	270 U	460 U
di-n-Octyl Phthalate.....	210 U	270 U	460 U
Benz(b)Fluoranthene.....	210 U	270 U	460 U
Benz(k)Fluoranthene.....	210 U	270 U	460 U
Benz(a)Pyrene.....	210 U	270 U	460 U
Indeno(1,2,3-cd)Pyrene.....	210 U	270 U	460 U
Dibenz(a,h)Anthracene.....	210 U	270 U	460 U
Benzo(g,h,i)Perylene.....	210 U	270 U	460 U

Modifiers: U=Analyzed, not detected. J=Present below detection limit. B=Present in blank. NS=Not spiked. %=Percent recovery.

PESTICIDE/PCBs

SOLAR POND CLOSURE CHARACTERIZATION REPORT
ROCKY FLATS PLANT, GOLDEN, COLORADO 1 JULY 1988

APPENDICES

WESTON ANALYTICS: Pesticides/PCB's

May 27, 1988

Page: 1

List: Customer ID's: All

RFW Batch ID	Customer ID	Laboratory ID
8608-041-001	SED0308860	
8608-024-003	SED0808860	
8608-024-004	SED0908860	
8608-056-008	SED1008860	
8608-027-001	SED1108860	
8608-027-002	SED1208860	
8608-027-040	SED1308860	

SOLAR POND SEDIMENT SAMPLES

PESTICIDES/PCB

CLP LIST

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

Page: 1

Sample Information

RFW Batch ID:	8608-041-001	8608-024-003	8608-024-004	8608-056-008
Customer ID:	SED0308860	SED0808860	SED0908860	SED1008860
Matrix:	Soil	Soil	Soil	Soil
Units:	UG/KG	UG/KG	UG/KG	UG/KG
Dilution Factor:	.250	.1869	.1869	.250

Surrogate Recovery

Di-n-butylchloroendate:	30 %	79 %	64 %	56 %
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Analytes

Alpha-BHC.....	2 U	1.5 U	1.5 U	2 U
Beta-BHC.....	2 U	1.5 U	1.5 U	2 U
Delta-BHC.....	2 U	1.5 U	1.5 U	2 U
Gamma-BHC (Lindane).....	2 U	1.5 U	1.5 U	2 U
Heptachlor.....	2 U	1.5 U	1.5 U	2 U
Aldrin.....	2 U	1.5 U	1.5 U	2 U
Heptachlor Epoxide.....	2 U	1.5 U	1.5 U	2 U
Endosulfan I.....	2 U	1.5 U	1.5 U	2 U
Dieldrin.....	4 U	3 U	3 U	4 U
4,4'-DDE.....	4 U	3 U	3 U	4 U
Endrin.....	4 U	3 U	3 U	4 U
Endosulfan II.....	4 U	3 U	3 U	4 U
4,4'-DDD.....	4 U	3 U	3 U	4 U
Endosulfan Sulfate.....	4 U	3 U	3 U	4 U
4,4'-DDT.....	4 U	3 U	3 U	4 U
Methoxychlor.....	20 U	15 U	15 U	20 U
Endrin Ketone.....	4 U	3 U	3 U	4 U
Chlordane.....	20 U	15 U	15 U	20 U
Toxaphene.....	40 U	30 U	30 U	40 U
Aroclor-1016.....	20 U	15 U	15 U	20 U
Aroclor-1221.....	20 U	15 U	15 U	20 U
Aroclor-1232.....	20 U	15 U	15 U	20 U
Aroclor-1242.....	20 U	15 U	15 U	20 U
Aroclor-1248.....	20 U	15 U	15 U	20 U
Aroclor-1254.....	40 U	30 U	30 U	40 U
Aroclor-1260.....	40 U	30 U	30 U	40 U

Modifiers: U=Analyzed, not detected. J=Present below detection limit. B=Present in blank. NS=Not spiked. %=Percent recovery.

SOLAR POND SEDIMENT SAMPLES
PESTICIDES/PCB
CLP LIST

=====

RFW Batch Number: Client: ROCKWELL (ROCKY FLATS) Page: 2

Sample Information

RFW Batch ID:	8608-027-001	8608-027-002	8608-027-040
Customer ID:	SED1108860	SED1208860	SED1308860
Matrix:	Soil	Soil	Soil
Units:	UG/KG	UG/KG	UG/KG
Dilution Factor:	.1869	.1869	.1869

Surrogate Recovery

Di-n-butylchloroendate:	65 %	64 %	100 %
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Analytes

Alpha-BHC.....	1.5 U	1.5 U	1.5 U
Beta-BHC.....	1.5 U	1.5 U	6.4 U
Delta-BHC.....	1.5 U	1.5 U	1.5 U
Gamma-BHC (Lindane).....	1.5 U	1.5 U	1.5 U
Heptachlor.....	1.5 U	1.5 U	1.5 U
Aldrin.....	1.5 U	1.5 U	1.5 U
Heptachlor Epoxide.....	1.5 U	1.5 U	1.5 U
Endosulfan I.....	1.5 U	1.5 U	1.5 U
Dieldrin.....	3 U	3 U	3 U
4,4'-DDE.....	3 U	3 U	3 U
Endrin.....	3 U	3 U	3 U
Endosulfan II.....	3 U	3 U	3 U
4,4'-DDD.....	3 U	3 U	3 U
Endosulfan Sulfate.....	3 U	3 U	3 U
4,4'-DDT.....	3 U	3 U	3 U
Methoxychlor.....	15 U	15 U	15 U
Endrin Ketone.....	3 U	3 U	3 U
Chlordane.....	15 U	15 U	15 U
Toxaphene.....	30 U	30 U	30 U
Aroclor-1016.....	15 U	15 U	15 U
Aroclor-1221.....	15 U	15 U	15 U
Aroclor-1232.....	15 U	15 U	15 U
Aroclor-1242.....	15 U	15 U	15 U
Aroclor-1248.....	15 U	15 U	15 U
Aroclor-1254.....	30 U	30 U	30 U
Aroclor-1260.....	30 U	30 U	30 U

Modifiers: U=Analyzed, not detected. J=Present below detection limit. B=Present in blank. NS=Not spiked. %=Percent recovery.

RADIONUCLIDES

SOLAR POND CLOSURE CHARACTERIZATION REPORT
ROCKY FLATS PLANT, GOLDEN, COLORADO

1 JULY 1988

APPENDICES

WESTON ANALYTICS: Radio Chemistry

May 27, 1988

Page: 1

List: Customer ID's: All

RFW Batch ID	Customer ID	Laboratory ID
1000-000-353	SED0308860	22542-7-7
1000-000-359	SED0808860	22509-14-6
1000-000-360	SED0908860	22509-14-7
1000-000-361	SED1008860	22581-6-4
1000-000-362	SED1108860	22510-10-7
1000-000-363	SED1208860	22510-10-8
1000-000-365	SED1308860	22510-10-10

SOLAR POND SEDIMENT SAMPLES
RADIOCHEMISTRY
DATA SUMMARY REPORT

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

Page: 1

Sample Information

RFW Batch ID:	1000-000-353	1000-000-359	1000-000-360
Customer ID:	SED0308860	SED0808860	SED0908860
Matrix:	Soil	Soil	Soil

Radio Chemistry

Gross Alpha.....	24 +/- 10	pci/g	19 +/- 10	pci/g	15 +/- 9	pci/g
Gross Beta.....	32 +/- 6	pci/g	22 +/- 6	pci/g	24 +/- 6	pci/g
Uranium 233, 234.....	0.95 +/- 0.19	pci/g	0.74 +/- 0.27	pci/g	0.87 +/- 0.17	pci/g
Uranium 235.....	NR		NR		NR	
Uranium 238.....	1.0 +/- 0.2	pci/g	0.57 +/- 0.24	pci/g	0.89 +/- 0.17	pci/g
Strontium 89, 90.....	NR		NR		NR	
Plutonium 239, 240.....	1.9 +/- 0.1	pci/g	0.13 +/- 0.10	pci/g	0.09 +/- 0.10	pci/g
Americium 241.....	0.42 +/- 0.06	pci/g	0.09 +/- 0.10	pci/g	0.16 +/- 0.15	pci/g
Cesium 137.....	NR		NR		NR	
Tritium.....	-0.03 +/- 0.24	pci/ml	0.32 +/- 0.26	pci/ml	0.11 +/- 0.25	pci/ml

Sample Information

RFW Batch ID:	1000-000-361	1000-000-362	1000-000-363
Customer ID:	SED1008860	SED1108860	SED1208860
Matrix:	Soil	Soil	Soil

Radio Chemistry

Gross Alpha.....	10 +/- 9	pci/g	19 +/- 9	pci/g	24 +/- 10	pci/g
Gross Beta.....	28 +/- 6	pci/g	13 +/- 6	pci/g	22 +/- 6	pci/g
Uranium 233, 234.....	0.89 +/- 0.20	pci/g	0.29 +/- 0.18	pci/g	0.61 +/- 0.18	pci/g
Uranium 235.....	NR		NR		NR	
Uranium 238.....	0.91 +/- 0.21	pci/g	0.29 +/- 0.18	pci/g	0.62 +/- 0.18	pci/g
Strontium 89, 90.....	NR		NR		NR	
Plutonium 239, 240.....	0.01 +/- 0.02	pci/g	0.02 +/- 0.02	pci/g	0.35 +/- 0.06	pci/g
Americium 241.....	0.00 +/- 0.01	pci/g	0.02 +/- 0.02	pci/g	0.19 +/- 0.05	pci/g
Cesium 137.....	NR		NR		NR	
Tritium.....	0.16 +/- 0.21	pci/ml	0.18 +/- 0.26	pci/ml	0.24 +/- 0.26	pci/ml

SOLAR POND SEDIMENT SAMPLES
RADIOCHEMISTRY
DATA SUMMARY REPORT

=====
RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

Page: 2

=====
Sample Information

=====
RFW Batch ID: 1000-000-365
Customer ID: SED1308860
Matrix: Soil

=====
Radio Chemistry

Gross Alpha.....	34 +/- 11	pCi/g
Gross Beta.....	22 +/- 6	pCi/g
Uranium 233, 234.....	0.93 +/- 0.29	pCi/g
Uranium 235.....	NR	
Uranium 238.....	0.63 +/- 0.25	pCi/g
Strontium 89, 90.....	NR	
Plutonium 239, 240.....	0.07 +/- 0.04	pCi/g
Americium 241.....	0.03 +/- 0.03	pCi/g
Cesium 137.....	NR	
Tritium.....	-0.01 +/- 0.25	pCi/ml

INORGANICS

**SOLAR POND CLOSURE CHARACTERIZATION REPORT
ROCKY FLATS PLANT, GOLDEN, COLORADO**

1 JULY 1988

APPENDICES

WESTON ANALYTICS: Inorganics

May 27, 1988

Page: 1

List: Customer ID's: All

RFW Batch ID	Customer ID	Laboratory ID
8608-041-053	SED0308860	
8608-024-027	SED0808860	
8608-024-030	SED0908860	
8608-056-032	SED1008860	
8608-027-003	SED1108860	
8608-027-006	SED1208860	
8608-027-012	SED1308860	

SOLAR POND SEDIMENT SAMPLES
INORGANIC
DATA SUMMARY REPORT

===== RFW Batch Number: Client: ROCKWELL (ROCKY FLATS) Page: 1 =====

Sample Information

RFW Batch ID:	8608-041-053	8608-024-027	8608-024-030
Customer ID:	SED0308860	SED0808860	SED0908860
Matrix:	Water	Soil	Soil

Inorganics

CO ₃ ²⁻ as CaCO ₃	NR	NR	NR			
HCO ₃ ⁻ as CaCO ₃	NR	NR	NR			
Chloride.....	12	mg/kg	26	mg/kg	139	mg/kg
Sulfate.....	91	mg/kg	33	mg/kg	289	mg/kg
pH.....						
Fluoride.....						
Nitrate-Nitrite-Nitrogen.....	113.7	mg/kg	149	mg/kg	78.0	mg/kg
Sulfide.....						
Cyanide, Total.....	0.005	mg/kg	1.0	mg/kg	0.22	U mg/kg
Hexavalent Chromium (Cr+6).....	NA		NA		NA	
Total Dissolved Solids.....	NA		NA		NA	
Total Suspended Solids.....	NA		NA		NA	
% Solids.....	88	%	90.1	%	90	%

Sample Information

RFW Batch ID:	8608-056-032	8608-027-003	8608-027-006
Customer ID:	SED1008860	SED1108860	SED1208860
Matrix:	Soil	Soil	Soil

Inorganics

CO ₃ ²⁻ as CaCO ₃	NR	NR	NR			
HCO ₃ ⁻ as CaCO ₃	NR	NR	NR			
Chloride.....	11	mg/kg	210	mg/kg	155	mg/kg
Sulfate.....	26	mg/kg	173	mg/kg	465	mg/kg
pH.....						
Fluoride.....						
Nitrate-Nitrite-Nitrogen.....	20	U mg/kg	38.1	mg/kg	20	U mg/kg
Sulfide.....						
Cyanide, Total.....	2.5	U mg/kg	0.09	U mg/kg	0.10	U mg/kg
Hexavalent Chromium (Cr+6).....	NA		NA		NA	
Total Dissolved Solids.....	NA		NA		NA	
Total Suspended Solids.....	NA		NA		NA	
% Solids.....	93	%	85	%	58	%

SOLAR POND SEDIMENT SAMPLES
INORGANIC
DATA SUMMARY REPORT

=====
RFW Batch Number: Client: ROCKWELL (ROCKY FLATS) Page: 2
=====

Sample Information

RFW Batch ID: 8608-027-012
Customer ID: SED1308860
Matrix: Soil

Inorganics

CO ₃ ²⁻ as CaCO ₃	NR
HCO ₃ ⁻ as CaCO ₃	NR
Chloride.....	34 mg/kg
Sulfate.....	18 U mg/kg
pH.....	
Fluoride.....	
Nitrate-Nitrite-Nitrogen.....	20 U mg/kg
Sulfide.....	
Cyanide, Total.....	0.07 U mg/kg
Hexavalent Chromium (Cr+6).....	NA
Total Dissolved Solids.....	NA
Total Suspended Solids.....	NA
% Solids.....	82 %

METALS

**SOLAR POND CLOSURE CHARACTERIZATION REPORT
ROCKY FLATS PLANT, GOLDEN, COLORADO**

1 JULY 1988

APPENDICES

WESTON ANALYTICS: Metals

May 27, 1988

Page: 1

List: Customer ID's: All

RFW Batch ID	Customer ID	Laboratory ID
8608-041-052	SED0308860	
8608-024-026	SED0808860	
8608-024-029	SED0908860	
8608-056-032	SED1008860	
8608-027-002	SED1108860	
8608-027-005	SED1208860	
8608-027-011	SED1308860	

SOLAR POND SEDIMENT SAMPLES

METALS

INORGANICS DATA SUMMARY REPORT

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

Page: 1

Sample Information

RFW Batch ID:	8608-041-052	8608-024-026	8608-024-029	8608-056-032
Customer ID:	SED0308860	SED0808860	SED0908860	SED1008860
Matrix:	Soil	Soil	Soil	Soil
Units:	MG/KG	MG/KG	MG/KG	MG/KG

Metals

Silver (Ag), total.....	2.2	1.0 U	0.79 U	1.1 U
Aluminum (Al), total.....	9.7	18700	2600	2950
Arsenic (As), total.....	0.10	2.0	1.6	0.5
Barium (Ba), total.....	57	157	28	11
Beryllium (Be), total.....	2.3	1.0	0.40 U	0.5 U
Calcium (Ca), total.....	710	5150	1370	3990
Cadmium (Cd), total.....	0.6 U	0.50 U	0.40 U	0.5 U
Cobalt (Co), total.....	8.0	7.0	4.0	5.4 U
Chromium (Cr), total.....	16	17	4.8	4.7
Cesium (Cs), total.....	11 U	8.5	8.8 U	27 U
Copper (Cu), total.....	19	.19	5.6	0.42
Iron (Fe), total.....	12500	18600	6280	5280
Mercury (Hg), total.....	0.26	0.23	0.11	0.11 U
Potassium (K), total.....	2610	6610	1210	550
Lithium (Li), total.....				
Magnesium (Mg), total.....	250	3690	713	2480
Manganese (Mn), total.....	200	430	249	340
Molybdenum(Mo), total.....	11	10 U	7.9 U	11 U
Sodium (Na), total.....	230 U	249	128	54 U
Nickel (Ni), total.....	14	13	3.2	4.3 U
Lead (Pb), total.....	14	13	2.5 U	7.5
Antimony (Sb), total.....	5.7 U	2.0 U	1.6 U	0.5 U
Selenium (Se), total.....	0.13	0.13	0.10 U	0.04 U
Strontium (Sr), total.....	14	78	14	15
Thallium (Tl), total.....	1.1 U	12	13	0.11 U
Vanadium (V), total.....	32	45	10	13
Zinc (Zn), total.....	71	76	34	23

SOLAR POND SEDIMENT SAMPLES
METALS
INORGANICS DATA SUMMARY REPORT

RFW Batch Number:

Client: ROCKWELL (ROCKY FLATS)

Page: 2

Sample Information

RFW Batch ID:	8608-027-002	8608-027-005	8608-027-011
Customer ID:	SED1108860	SED1208860	SED1308860
Matrix:	Soil	Soil	Soil
Units:	MG/KG	MG/KG	MG/KG

Metals

Silver (Ag), total.....	1.2 U	1.1 U	1.6
Aluminum (Al), total.....	15100	9660	8520
Arsenic (As), total.....	0.23 U	0.27 U	0.23
Barium (Ba), total.....	20 U	119	91
Beryllium (Be), total.....	0.50 U	0.57 U	0.39 U
Calcium (Ca), total.....	132000	12000	6930
Cadmium (Cd), total.....	1.2	0.57 U	0.39 U
Cobalt (Co), total.....	12	8.0	4.6
Chromium (Cr), total.....	6.1	9.1	7.8
Cesium (Cs), total.....	12 U	14 U	6.6 U
Copper (Cu), total.....	13	17	10
Iron (Fe), total.....	5280	12800	14300
Mercury (Hg), total.....	0.72	0.20	0.02 U
Potassium (K), total.....	5180	42700	34100
Lithium (Li), total.....			
Magnesium (Mg), total.....	612	2600	1800
Manganese (Mn), total.....	88	189	325
Molybdenum(Mo), total.....	2.2	11 U	7.8 U
Sodium (Na), total.....	670	659	324
Nickel (Ni), total.....	34	17	9.3
Lead (Pb), total.....	4.4	17	11
Antimony (Sb), total.....	1.2 U	2.3 U	1.6
Selenium (Se), total.....	0.23 U	0.27 U	0.22 U
Strontium (Sr), total.....	15	86	48
Thallium (Tl), total.....	4.1	8.4	8.5
Vanadium (V), total.....	15	28	26
Zinc (Zn), total.....	660	258	99

APPENDIX D
HISTORICAL ANALYTICAL DATA

**SOLAR POND CLOSURE CHARACTERIZATION REPORT
ROCKY FLATS PLANT, GOLDEN, COLORADO 1 JULY 1988**

APPENDICES

This appendix contains historical analytical data for the Solar Ponds Area.

The enclosed data are presented in the following order:

Appendix D-1: **Metals**
 207 Solar Ponds

Appendix D-2: **Radiochemistry**
 207 Solar Ponds
 774 Pond
 Sump 1
 Sump 2
 Sump 3
 Sump 6

Appendix D-3: **Inorganics**
 207 Solar Ponds
 774 Ponds
 Sump 1
 Sump 2
 Sump 3
 Sump 6

NARRATIVE ROCKY FLATS HISTORICAL DATA BASE

The Rocky Flats Historical Database has been established using data obtained from Rockwell files and binders located at Rocky Flats. It includes data on landfill sites and solar ponds and covers the period from 1974 to 1986. To prepare for the possibility of combining this historical data with current data, the ADMS database structure has been used.

Key elements to the reports generated from this database include sample dates, reporting units, and analyte values. These are discussed in the following paragraphs.

SAMPLE DATES

When available, exact sample dates provided on analytical reports have been used. Monthly grab samples for which only a month and year were indicated have been assigned a date of the 15th or 16th of the month. In situations where sample dates were not provided on analytical reports but dates could be approximated from report dates and report batch numbers, the approximate date was used. Data for which sample dates could not be approximated have not been included.

UNITS

With the exception of specific conductivity which has been reported in umhos/cm, analytical values have been reported in milligrams per liter (MG/L;PPM). Reporting units on phenols and pcb's are questionable and values included in the historical appendices for those substances should not be used for evaluation purposes

until those have been verified and corrected. In many cases, an attempt was made to convert phenol pcb values to micrograms per liter (UG/L;ppb).

ANALYTE VALUES

Values for analytical data reported in scientific notation have been converted to standard notation. With the exception of the phenol pcb values mentioned in the paragraph on units, all other values have been entered as they appeared on Rockwell analytical reports. No attempt has been made to adjust values for significant figures, etc.

APPENDIX D-1

METALS

SOLAR POND CLOSURE CHARACTERIZATION REPORT
ROCKY FLATS PLANT, GOLDEN, COLORADO 1 JULY 1988

APPENDICES

207 SOLAR PONDS

SOLAR POND CLOSURE CHARACTERIZATION REPORT
ROCKY FLATS PLANT, GOLDEN, COLORADO 1 JULY 1988

APPENDICES

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SOLAR FOND 207C
METALS
HISTORICAL DATA

SAMPLE DATE	SILVER MG/L	ALUMINUM MG/L	ARSENIC MG/L	BORON MG/L	BARIUM MG/L	BERYLLIUM MG/L	CALCIUM MG/L	CADMIUM MG/L	COBALT MG/L	CHROMIUM MG/L	COPPER MG/L	IRON MG/L	MERCURY MG/L
05/15/76	0.26	5.3	0.003	130	1	0.46		0.6	1.7	40	0.53	1.7	0.1
05/15/75						0.2							
12/15/75						0.3							
04/15/76						0.1							
08/15/76						0.4							
04/15/77						0.1							
08/15/77						(0.1)							
11/15/77						0.1							
12/15/77						0.2							
01/15/78						0.1							
02/15/78						0.14							
03/15/78						0.2							
04/15/78						0.1							
05/15/78						(0.1)							
06/15/78						(0.1)							
07/15/78						(0.1)							
08/15/78						(0.1)							
08/16/78						0.1							
09/15/78						0.3							
10/15/78						0.3							
11/15/78						0.10							
12/15/78						0.1							
01/15/79						0.1							
01/16/79						0.1							
03/15/79						(0.1)							
09/15/81						(0.1)							
10/25/81						(0.1)							
10/07/82						0.1							
12/06/82						(0.1)							
03/25/85						(0.1)							

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SOLAR POND 207C
METALS
HISTORICAL DATA

SAMPLE DATE	SILVER MG/L	ALUMINUM MG/L	ARSENIC MG/L	BORON MG/L	BARIUM MG/L	BERYLLIUM MG/L	CALCIUM MG/L	CADMIUM MG/L	COBALT MG/L	CHROMIUM MG/L	COPPER MG/L	IRON MG/L	MERCURY MG/L
06/25/85						(0.1							
09/11/85						0.6							

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SOLAR POND 207C
METALS
HISTORICAL DATA

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SOLAR FOND 207C
METAL S

HISTORICAL DATA

SAMPLE DATE

55/52/90

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SOLAR FOND 207A

METALS

HISTORICAL DATA

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SOLAR POND 207A
METALS
HISTORICAL DATA

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SOLAR FOND 207B 30TH

METALS

HISTORICAL DATA

SAMPLE DATE	SODIUM MG/L	POTASSIUM MG/L	CALCIUM MG/L	MAGNESIUM MG/L
12/11/78	206	33	29	5.0
12/15/78				
03/02/79				
04/11/79				
05/29/79				
09/31/79				
06/06/79				
09/05/79				
09/07/79				
09/10/79				
09/12/79				
09/14/79				
09/17/79				
09/19/79				
09/21/79				
09/23/79				
09/26/79				
09/28/79				
10/01/79				
10/03/79				
10/05/79				
10/07/79				

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SAMPLE DATE	SODIUM mg/L	POTASSIUM mg/L	CALCIUM mg/L	METALS HISTORICAL DATA	SOLAR FUND 2078 NORTH
05/09/75					
12/08/73	79	13	36		9.9
12/15/73	225	36	26		5.0
03/15/73					
03/22/73					
03/29/73					
06/05/74					
06/12/74					
06/19/74					
06/26/74					
07/03/74					
07/10/74					
07/17/74					
07/24/74					
07/31/74					
10/30/74					
11/06/74					
11/13/74					
11/20/74					
12/02/75					

APPENDIX D-2
RADIOCHEMISTRY

SOLAR POND CLOSURE CHARACTERIZATION REPORT
ROCKY FLATS PLANT, GOLDEN, COLORADO 1 JULY 1988

APPENDICES

207 SOLAR PONDS

SOLAR POND CLOSURE CHARACTERIZATION REPORT
ROCKY FLATS PLANT, GOLDEN, COLORADO 1 JULY 1988

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SOLAR FOND 207C
RADIOCHEMISTRY
HISTORICAL DATA

SAMPLE DATE	ALPHA PCI/L ERROR	BETA PCI/L ERROR	TRITIUM PCI/L ERROR	URANIUM 235 PCI/L ERROR	URANIUM 234 PCI/L ERROR	URANIUM 238 PCI/L ERROR	PLUTONIUM 239 PCI/L ERROR	STRONTIUM 90 PCI/L ERROR	AMERICIUM 241 PCI/L ERROR	T. URANIUM PCI/L ERROR
05/15/74					27		1360		2	
05/15/75	27000	120000	76000	0.16	31	332		3	59	
12/15/75	43000	210000		0.3	63			(3		
04/15/76	29000	140000			34			4		
12/15/76	25000	310000		0.20	42			5		
04/15/77	23000	135000		0.14	29			32		
05/15/77	9700	31000		0.01	22			27		
11/15/77	23000	58000		630	13000			12		
12/15/77	56000	65000		710	15000			4		
01/15/78	46000	78000		3300	19000	20000	27	14		
02/15/78	38000	96000		1600	1400	17000	68	4.0		
03/15/78	46000	74000		670	16000	17600	20	4.2		
04/15/78	64000	66000		950	15700	19100	540	6.6		
05/15/78	5800	8900		120	2300	2600	6.5	(3		
06/15/78	7500	9800		3200	6300	7500	(10 D/M/L	(3		
07/15/78	25000	22000		230	4300	4900	9.9	(3		
08/15/78	93000	36000	13700	610	13400	12000	25	4.2	0.16	
08/15/78	16000	22000		590	1360	12000	5.2	(3		
09/15/78	34000	67000		270	5300	5900	27	(3		
10/15/78	16000	29000		320	6100	7600	36			
11/15/78	5900	11000		150	3200	3300	3	3.0		
12/15/78	11000	21000		210	4900	4700	9	(3		
01/15/79	9400		11200	310	7900	6900	5.2		3.9	
01/16/79	15000	24000		1800	34700	39200	5.0			
02/15/79			9123	700						
03/15/79	21000	651		900	17600	19800	25	3		
07/23/79	17000	22000	14600	210	3900	4600	63		10.0	
08/15/79	9500	17000	3490	230	4700	5000	21		.5	
09/15/79	15000	19000	3570	460	4700	5200	46		.6	
07/10/80	40000	30000	5000	32	3300	3500	11		.63	

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SOLAR FOND 207C
RADIOCHEMISTRY
HISTORICAL DATA

SAMPLE DATE	ALPHA PCI/L	ALPHA ERROR	BETA PCI/L	BETA ERROR	TRITIUM PCI/L	TRITIUM ERROR	URANIUM 235 PCI/L	URANIUM 235 ERROR	URANIUM 236 PCI/L	URANIUM 236 ERROR	URANIUM 238 PCI/L	URANIUM 238 ERROR	PLUTONIUM 239 PCI/L	PLUTONIUM 239 ERROR	STRONTIUM 90 PCI/L	STRONTIUM 90 ERROR	AMERICIUM 241 PCI/L	AMERICIUM 241 ERROR	T. URANIUM PCI/L	T. URANIUM ERROR
05/06/80	5000	2900	6800	3900	5100		69		2700		2900		15				61			
09/12/80	11000	3500	9300	4600	5100		230		3600		3800		19				66			
10/15/80	1239	523	499	109	(840)		(290)		920		(2000)		17				51			
10/23/80					2196		512													
11/07/80					25279		765													
11/24/80	367	127	1062	266	3000		230		140	4100	700	3100	60	3600	300		620	430		
12/03/80	6600	1100	1600	350	5100		610		250	4600	90	5200	1000	510	270		770	310		
12/07/80					3420		655													
01/15/81					6045		662													
01/27/81	3200		10000		6300		160		50	3700	300	6600	500	22	7		29	26		
02/15/81					4363		424													
02/25/81	7200		6100		7400		120		40	2400	200	4200	300	3.1	0.7		24	25		
02/27/81					4363		624													
03/12/81	4000		3100		1800		100		40	1500	200	2600	300	26	6		11	7		
03/27/81					2522		457													
04/15/81					2465		447													
04/23/81	3300	1600	8700	4000	1600		99		116	1200	400	1700	500	0	110		3.3	30		
05/15/81					2496		436													
05/15/81	2300	1200	390	420	3421		608		560	230	1500	500	2400	600	69	104		20	67	
06/23/81	2400	1600	1300	700	(1400)				100	60	2100	400	4100	600	5	3		17	25	
07/29/81	3200	1300	4300	1300			92		40	2000	300	4200	600	0	4		7	7		
09/15/81	17000	3000	180000	40000	1400		410		140	2700	2000	20000	4000	27	20		56	33		
10/23/81	370	70	4500	790			120		50	2000	500	4200	300	21	12		42	44		
02/26/82					6049		570													
04/06/82					4461		349													
04/27/82					2004		652													
06/02/82					1094		550													
07/05/82	2	14	19	27																
07/27/82					3533		591													
09/03/82	18	16	0	22			0.6		0.4	3.0	1.0	0.4	2.3	.34	.46		110	50		

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SOLAR POND 207C
RADIOCHEMISTRY
HISTORICAL DATA

SAMPLE DATE	ALPHA PCI/L	BETA PCI/L	TRITIUM PCI/L	URANIUM 235 PCI/L	URANIUM 236 PCI/L	URANIUM 238 PCI/L	PLUTONIUM 239 PCI/L	STRONTIUM 90 PCI/L	AMERICIUM 241 PCI/L	T. URANIUM PCI/L
	ERROR	ERROR	ERROR	ERROR	ERROR	ERROR	ERROR	ERROR	ERROR	ERROR
08/27/82				2248	738					
09/24/82				908	908					
10/07/82	9.8	100	11000	4000	990	600				
11/22/82					6237	931				
12/06/82	10	19	0	19	630	480				
01/26/83					2822	708				
02/23/83					575	653				
03/30/83					1117	627				
06/27/83					2043	534				
07/29/83					1945	574				
03/22/84	2100	1500	620	170	400	170				
06/05/84	2856	2423	722	250	6400	600				
09/13/84	19000	17000	771	227	1200	400				
12/05/84	15000	3000	605	79	1500	600				
03/25/85	2500	400	6300	300	0	0				
06/25/85	6500		11000	2900						
09/11/85	3500	600	6400	1100	720	90				

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SOLAR FOND 207A
RADIOCHEMISTRY
HISTORICAL DATA

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SOLAR FUND 207A
RADIOCHEMISTRY
HISTORICAL DATA

SAMPLE DATE	ALPHA FC/T/L ERROR	BETA FC/T/L ERROR	TRITIUM FC/T/L ERROR	URANIUM 235 FC/T/L ERROR	URANIUM 238 FC/T/L ERROR	PLUTONIUM 239 FC/T/L ERROR	STRONTIUM 90 FC/T/L ERROR	AMERICIUM 241 FC/T/L ERROR	T. URANIUM FC/T/L ERROR	CURIUM 244 FC/T/L ERROR
05/15/61			7654							
05/16/61			694							
06/30/61			6156							
02/26/52			503							
04/06/52			5317							
04/06/52			578							
04/06/52			14361							
04/06/52			1232							
04/06/52			3943							
06/02/52			316							
06/02/52			292							
07/27/61			646							
07/27/61			5507							
08/24/61			721							
08/24/61			6701							
09/24/61			732							
09/24/61			6254							
10/07/52			739							
10/07/52			11000	13000						
03/06/53	0	0	3064	3064						
03/22/53	0	0	29432	29432						
03/22/53	4300	4300	1105	1105						
03/22/53	7000	7000	306	306						
06/15/53	1900	1900	1400	1400						
09/06/53	390	390	700	700						
09/06/53	2400	2400	1000	3000						
03/05/54	1900	1900	300	1000						
03/05/54	1100	1100	200	1700						

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SOLAR FOND 207A
RADIOCHEMISTRY
HISTORICAL DATA

SAMPLE DATE	ALPHA PCI/L	BETA FCI/L	TRITIUM PCI/L	URANIUM 235 PCI/L	URANIUM 236 PCI/L	URANIUM 238 PCI/L	PLUTONIUM 239 FCI/L	STRONTIUM 90 PCI/L	AMERICIUM 241 PCI/L	T. URANIUM FCI/L	CURIUM 244 FCI/L
06/05/84	3500 2900	2 39	27 6300 300				11	24	38	28 6500 600	
09/13/84	32	16 39	40 2200 1000				240		200	.69	
09/13/84	32	16 39	40 2500 100				100		120	.79	
12/05/84	204 120	21	26 620 230				240		200	.69	
03/05/85	3400 300	12000 1000	1000 400				100		120	.79	
06/25/85	24000 1000	5290					160	70	0	76 86	70
09/11/85	56000	0 27000 6000	3000 500				130	60	0	9200	
							0	420	150	1100	
									0	26000	
									1000	2000	

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SOLAR FOND 20TB SOUTH

RADIOCHEMISTRY

HISTORICAL DATA

SAMPLE DATE	ALPHA PCU/L	ALPHA ERROR	BETA PCU/L	BETA ERROR	TRITIUM PCU/L	TRITIUM ERROR
12/11/72	21	5	5	5	12229	1396
12/15/73	59	6	5	5	31	1330
03/02/79	11	3	3	3	9	1310
06/11/79					27	1310
08/29/79	35	10	19	19	69	1330
06/31/79	26	31	32	32	16	1500
09/04/79	9	9	9	9	30	1500
09/05/79	27	65	23	23	23	1570
09/07/79	11	69	36	36	36	1500
09/10/79	16	32	32	32	32	1533
09/12/79	15	30	30	30	30	1500
06/16/78	16	23	23	23	23	1500
09/17/79	5	36	36	36	36	1500
09/19/79	1	15	15	15	15	1500
09/21/79	3	3	3	3	3	1500
06/26/79	16	35	35	35	35	1500
06/28/79	16	21	21	21	21	1500
09/23/79	16	53	53	53	53	1500
10/01/78	2	28	28	28	28	1500
10/03/78	56	6	6	6	6	1500
10/05/79	56	11	11	11	11	1500
10/06/79	11	50	50	50	50	1500

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SOLAR POND 2078 NORTH
RADIONUCLIDES
HISTORICAL DATA

SAMPLE DATE	ALPHA PCU/L	ERROR	BETA PCU/L	ERROR	TRITIUM PCU/L	ERROR
05/09/78	35		55			
12/02/78	13	5				
12/15/78	53	95				
30/15/78	124	55	22	31		
03/22/83	112	55	67	36		
03/29/83	57	23	27	33		
06/05/84					1850	760
06/12/84					1:10	750
06/19/84	291	132	55	51		
06/26/84	124	67	67	69		
07/03/84					3140	910
07/10/84					2760	700
07/24/84					2530	1060
07/31/84					2710	570
10/30/84					2120	560
11/06/84					2970	320
11/13/84					1330	490
11/12/84	67	0	67	25	1310	430
11/03/86	40	4	58	11		

POLAR FUND 2076 CENTER

RADIOCHEMISTRY

HISTORICAL DATA

SAMPLE DATE	ALPHA PCU/L	ERROR	BETA PCU/L	ERROR	TRITIUM PCU/L	ERROR
03/15/93	35	37	6	26		
03/22/93	16	19	7	22		
03/29/93	24	16	19	27		
06/03/94					360	620
06/12/94					266	676
06/19/94	7	20	11	33		
06/26/94	43	25	-6	27		
07/03/94					420	770
07/10/94					340	940
07/17/94					1610	920
07/24/94					100	830
07/31/94					250	700
10/03/94					-90	700
11/03/94					-90	620
11/10/94					-126	650
11/17/94	55	6	7	28		
12/02/94	76	16	35	6		

774 POND

SOLAR POND CLOSURE CHARACTERIZATION REPORT
ROCKY FLATS PLANT, GOLDEN, COLORADO 1 JULY 1988

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774 FOND
RADIOCHEMISTRY
HISTORICAL DATA

SAMPLE DATE	ALPHA PCI/L	BETA PCI/L	TRITIUM PCI/L	STRONTIUM 90 PCI/L	PLUTONIUM 239 PCI/L	AMERICIUM 241 PCI/L
01/05/76	17					
01/12/76	13					
01/19/76	17					
01/26/76	18					
02/02/76	6					
02/09/76	11					
02/16/76	4					
02/23/76	3					
03/01/76	15					
03/08/76	(5					
03/15/76	(5					
03/22/76	6					
03/29/76	6					
04/05/76	(5					
04/12/76	30					
04/19/76	31					
04/26/76	36					
05/03/76	19					
05/10/76	15					
05/17/76	29					
05/24/76	16					
05/31/76	14					
06/07/76	27					
06/14/76	10					
06/21/76	12					
06/28/76	17					
07/06/76	33					
07/13/76	(5					
07/20/76	32					
03/02/76	3					

776 POND
RADIOCHEMISTRY
HISTORICAL DATA

SAMPLE DATE	ALPHA FC1/L ERROR	BETA PC1/L ERROR	TRITIUM PC1/L ERROR	STRONTIUM 90 PC1/L ERROR	PLUTONIUM 239 FC1/L ERROR	AMERICIUM 241 PC1/L ERROR
02/09/76						
02/16/76	16					
05/23/76	10					
06/19/76	32					
06/20/76	19					
09/07/76	14					
09/13/76	13					
09/21/76	28					
10/04/76	27					
10/11/76	26					
10/18/76	100					
10/25/76	44					
11/01/76	13					
11/08/76	12					
11/15/76	21					
11/22/76	15					
11/29/76	17					
12/06/76	16					
12/13/76	21					
12/20/76	50					
12/27/76	19					
01/03/77	24					
01/10/77	24					
01/17/77	15					
01/24/77	12					
01/31/77	16					
02/07/77	29					
02/14/77	40					
03/01/77	32					
03/14/77	32					
03/21/77	27					

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776 FOND
RADIOCHEMISTRY
HISTORICAL DATA

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776 FOND
RADIOCHEMISTRY
HISTORICAL DATA

SAMPLE DATE	ALPHA PCI/L	BETA PCI/L	TRITIUM PCI/L	STRONTIUM 90 PCI/L	PLUTONIUM 239 PCI/L	AMERICIUM 241 PCI/L
	ERROR	ERROR	ERROR	ERROR	ERROR	ERROR
11/07/77	23					
11/14/77	30					
11/21/77	25					
12/05/77	16					
12/12/77	59					
12/19/77	13					
12/27/77	33					
01/03/78	35					
01/09/78	23					
01/16/78	37					
01/23/78	25					
01/30/78	27					
02/06/78	21					
02/13/78	19					
02/20/78	76					
02/27/78	46					
03/06/78	22					
03/13/78	13					
03/20/78	27					
03/27/78	13					
04/03/78	21					
04/10/78	17					
04/17/78	51					
04/24/78	35					
05/01/78	9					
05/08/78	4					
05/15/78	19					
05/22/78	29					
05/29/78	24					
06/05/78	16					

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776 POND
RADIOCHEMISTRY
HISTORICAL DATA

SAMPLE DATE	ALPHA PCI/L	BETA PCI/L	TRITIUM PCI/L	STRONTIUM 90 PCI/L	PLUTONIUM 239 PCI/L	AMERICIUM 241 PCI/L
	ERROR	ERROR	ERROR	ERROR	ERROR	ERROR
06/12/78	16					
06/19/78	45					
06/26/78	60					
07/03/78	29					
07/10/78	23					
07/17/78	8					
07/24/78	22					
07/31/78	20					
08/07/78	20					
03/14/79	94					
08/21/79	46					
02/29/79	70					
09/05/78	39					
09/11/78	28					
09/18/78	76					
09/25/78	36					
10/02/78	9					
10/09/78	69					
10/16/78	107					
10/23/78	25					
10/30/78	39					
11/06/78	13					
11/13/78	4					
11/20/78	21					
11/27/78	17					
12/04/78	14					
12/11/78	25					
12/18/78	23					
01/02/79	19					
01/09/79	35					

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RADIOCHEMISTRY
HISTORICAL DATA

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RADIOCHEMISTRY
HISTORICAL DATA

SAMPLE DATE	ALPHA PCU/L	ERROR	BETA PCU/L	ERROR	TRITIUM PCU/L	ERROR	STRONTIUM 90 PCU/L	ERROR	PLUTONIUM 239 PCU/L	ERROR	AMERICIUM 241 PCU/L	ERROR
05/13/79	33											
08/20/79	37											
05/27/79	19											
09/04/79					16649	1130						
09/10/79	25				12761	786						
09/17/79	17				7229	521						
09/24/79					12309	759						
10/08/79	29											
10/15/79	41											
10/22/79	22											
11/05/79	21											
11/12/79	41											
11/19/79	20											
11/26/79	27											
12/03/79	9											
12/10/79	60											
12/17/79	52											
01/07/80	72											
01/14/80	49				10663	732						
01/21/80	35				6679	604						
01/28/80	120				7245	602						
02/04/80	64				11249	733						
02/11/80					7762	639						
02/25/80					6301	624						
03/03/80					9362	911						
03/10/80					5264	604						
03/17/80					4635	710						
03/24/80					566	692						
03/31/80					2634	561						
04/07/80					3237	652						

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RADIOCHEMISTRY
HISTORICAL DATA

SAMPLE DATE	ALPHA		BETA		TRITIUM		STRONTIUM 90		PLUTONIUM 239		AMERICIUM 241	
	PCI/L	ERROR	PCI/L	ERROR	PCI/L	ERROR	PCI/L	ERROR	PCI/L	ERROR	PCI/L	ERROR
04/16/80					7057	646						
04/21/80					10624	716						
04/26/80					7925	624						
05/05/80					7134	575						
05/12/80					6636	585						
05/19/80					6966	621						
05/27/80					11176	750						
06/02/80					10992	729						
06/09/80					9269	718						
06/16/80					9549	655						
06/23/80					9765	728						
06/30/80					3402	709						
07/07/80					8212	657						
07/14/80					6095	776						
07/21/80					9175	664						
07/28/80					3622	529						
08/04/80					6597	609						
08/11/80					3262	677						
08/18/80					7479	762						
08/25/80					9035	707						
09/01/80					9117	791						
09/08/80					9434	655						
09/15/80					3079	556						
09/22/80					5450	667						
09/29/80					10156	553						
10/06/80					10021	792						
10/13/80					5663	663						
10/20/80					5341	594						
10/27/80					6611	661						
11/03/80					4973	579						

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RADIOCHEMISTRY
HISTORICAL DATA

SAMPLE DATE	ALPHA PCI/L	ERROR	BETA PCI/L	ERROR	TRITIUM PCI/L	ERROR	STRONTIUM 90 PCI/L	ERROR	PLUTONIUM 239 PCI/L	ERROR	AMERICIUM 241 PCI/L	ERROR
11/10/80					6220	610						
11/17/80					2590	561						
11/24/80					3233	605						
12/01/80					2566	579						
12/08/80					3272	655						
12/15/80					4278	597						
12/22/80					4472	602						
01/05/81					6976	599						
01/12/81					6288	609						
01/19/81					6656	617						
02/02/81					3909	604						
02/09/81					2538	669						
02/16/81					3719	566						
02/23/81					1812	613						
03/02/81					2984	632						
03/09/81					1452	538						
03/16/81					2749	619						
03/30/81					2910	591						
04/06/81					2764	591						
04/20/81					2332	602						
06/15/81					10041	746						
06/15/81					3257	667						
07/22/81					8143	706						
07/20/81					6315	529						
07/27/81					3545	585						
09/14/81					2525	702						
10/05/81					5260	314						
11/16/81					3504	565						
11/23/81					4320	673						
11/30/81					3041	712						

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RADIOCHEMISTRY
HISTORICAL DATA

SAMPLE DATE	ALPHA PCI/L	BETA PCI/L	TRITIUM PCI/L	STRONTIUM 90 PCI/L	PLUTONIUM 239 PCI/L	AMERICIUM 241 PCI/L
	ERROR	ERROR	ERROR	ERROR	ERROR	ERROR
01/18/82			9479	681		
02/15/82			5032	767		
02/22/82			3885	591		
03/01/82			6019	666		
03/22/82			5015	787		
04/12/82			5016	606		
04/19/82			3915	605		
04/26/82			3643	618		
05/03/82			4953	660		
05/10/82			4353	585		
05/24/82			2354	663		
06/01/82			4567	627		
06/07/82			7277	736		
06/14/82			6559	563		
06/21/82			5612	625		
06/28/82			7051	630		
07/05/82			3959	510		
08/02/82			7435	703		
08/23/82			3074	699		
09/07/82			6095	635		
10/04/82			5156	506		
11/01/82			3048	561		
11/06/82			3258	593		
12/06/82			2734	569		
12/21/82			5081	391		
01/04/83			1725	517		
01/07/83			2516	526		
02/09/83			1370	557		
03/07/83			1367	524		
05/06/83			1744	551		

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RADIOCHEMISTRY
HISTORICAL DATA

SUMP 1

SOLAR POND CLOSURE CHARACTERIZATION REPORT
ROCKY FLATS PLANT, GOLDEN, COLORADO 1 JULY 1988

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SUMP 1
RADIOCHEMISTRY
HISTORICAL DATA

SAMPLE DATE	ALPHA		BETA		TRITIUM		STRONTIUM 90		PLUTONIUM 239		AMERICIUM 241	
	FCI/L	ERROR	FCI/L	ERROR	FCI/L	ERROR	FCI/L	ERROR	FCI/L	ERROR	FCI/L	ERROR
01/02/75	760				34319	1421						
01/09/75	1500				32688	1355						
01/16/75	870				31694	951						
01/23/75	1100				62199	2427						
01/30/75	1000				68376	2498						
02/06/75	1500				29755	963						
02/13/75	870				28602	935						
02/20/75	940				39020	3222						
03/06/75	580				5907	1766						
03/13/75	530				11211	1665						
03/20/75	630				37178	1066						
03/31/75	600				11523	392						
04/17/75	770				20538	1109						
04/24/75	1200		5700		55300	3000						
05/01/75	1400		8800		29232	908						
05/08/75	1200		12900		32401	995						
05/15/75	7600		5900									
05/22/75	310		2700		19813	792						
05/29/75	340		21000		6906	640						
06/05/75	460		2100		24215	363						
06/12/75	390		10000		16551	1019						
06/19/75	650		7900		24612	1195						
06/26/75	280		6700		32349	951						
07/03/75	49		9700		36527	569						
07/10/75	660		7600		37368	1052						
07/17/75	1000		13000		36639	1649						
07/24/75	1200		34000		23693	563						
07/31/75	940		13000		42238	1133						
08/07/75	960		93000		44237	1166						
09/14/75	360		3200		12410	514						

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RADIOCHEMISTRY
HISTORICAL DATA

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RADIOCHEMISTRY
HISTORICAL DATA

SAMPLE DATE	ALPHA PCI/L	BETA PCI/L	TRITIUM PCI/L	STRONTIUM 90 PCI/L	PLUTONIUM 239 PCI/L	AMERICIUM 241 PCI/L
	ERROR	ERROR	ERROR	ERROR	ERROR	ERROR
04/01/76	640	920				
04/08/76	370	3000				
04/15/76	2000	6600				
04/22/76	2200	720				
04/29/76	630	3900				
05/06/76	740	3100				
05/13/76	560	4600				
05/20/76	590	450				
05/27/76	680	1900				
06/03/76	700	1900				
06/10/76	1300	5000				
06/17/76	1300	5100				
06/24/76	2050	4300				
07/01/76	3300	5200				
07/08/76	7400	3700				
07/22/76	330	2700				
07/29/76	850	4400				
08/05/76	380	1600				
08/12/76	1500	4200				
08/19/76	1400	3400				
08/26/76	4200	7400				
09/02/76	2400	3900				
09/09/76	880	1300				
09/16/76	300	400				
09/30/76	1000	2700				
10/07/76	600	4200				
10/14/76	900	1100				
10/21/76	1300	5900				
10/28/76	650	7700				
11/04/76	1200	2000				

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RADIOCHEMISTRY
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HISTORICAL DATA

SAMPLE DATE	ALPHA PCI/L	BETA PCI/L	TRITIUM PCI/L	STRONTIUM 90 PCI/L	PLUTONIUM 239 PCI/L	AMERICIUM 241 PCI/L
	ERROR	ERROR	ERROR	ERROR	ERROR	ERROR
06/30/77	880	6900				
07/07/77	2000	5100				
07/14/77	1500	4200				
07/21/77	220	960				
07/28/77	820	2200				
08/04/77	1200	3500				
08/11/77	540	1600				
08/18/77	1400	3200				
08/25/77	1300	2600				
09/01/77	360	2600				
09/08/77	640	2900				
09/15/77	750	2600				
09/22/77	2500	3100				
09/29/77	1500	3300				
02/27/78	1000		17835	1869		
05/04/78	51	57				
05/11/78	110	250				
05/18/78	170	590				
05/25/78	65	30				
06/01/78	13	29				
06/03/78	20	9				
06/22/78	920	1400				
06/29/78	730	1100				
06/19/79	40	75	7567	343		
04/26/79	23	50	7913	519		
05/03/79	52	43	5454	546		
05/10/79	59	219	4595	531		
05/16/79	98	73	7030	337		
05/21/79	75	61	6205	743		
05/31/79	60	173	6339	703		

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SUMP 1
RADIOCHEMISTRY
HISTORICAL DATA

SAMPLE DATE	ALPHA PCI/L	ERROR	BETA PCI/L	ERROR	TRITIUM PCI/L	ERROR	STRONTIUM 90 PCI/L	ERROR	PLUTONIUM 239 PCI/L	ERROR	AMERICIUM 241 PCI/L	ERROR
06/07/79	36		66		7164	862						
06/16/79	60		113		6059	569						
06/21/79	56		56		6839	654						
12/06/79	79		15		2792	406						
01/17/80	359		66		3592	564						
01/24/80	228		73		4873	658						
01/31/80	15		16		3225	595						
02/07/80	39				3697	597						
02/14/80	71		14		3969	637						
02/21/80	6		22		4102	498						
02/28/80	63		29		4115	649						
03/06/80	60		32		3661	379						
03/13/80	70		5		3002	535						
03/20/80	33		40		2509	546						
03/27/80	155	95	142	202	2086	646						
04/03/80	67	60	38	154	4681	383						
04/09/80	35	59	46	154	4008	630						
04/17/80	17	163	75	108	4883	531						
04/24/80	48	56	120	182	3115	589						
05/01/80	520	335	58	170	3856	636						
05/08/80	121	51	156	221	4160	491						
05/15/80	38	35	166	190	3810	479						
05/22/80	151	93	181	192	4297	571						
05/27/80	114	36	114	199	3870	513						
06/03/80	940	319	1962	432	15257	817						
06/12/80	774	246	2242	537	15479	531						
06/19/80	962	324	2459	552	15726	602						
06/26/80	359	346	2124	663	12324	617						
07/03/80	1600	600	3100	500	16121	695						
07/10/80	2340	934	3793	582	20798	1042						

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RADIOCHEMISTRY
HISTORICAL DATA

SAMPLE DATE	ALPHA		BETA		TRITIUM		STRONTIUM 90		PLUTONIUM 239		AMERICIUM 241	
	PCI/L	ERROR	PCI/L	ERROR	PCI/L	ERROR	PCI/L	ERROR	PCI/L	ERROR	PCI/L	ERROR
07/17/80	1122	391	2541	564	23703	824						
07/24/80	1679	609	373	887	27695	995						
07/31/80	1925	790	2809	653	25906	726						
08/07/80	1624	709	3197	1315	25047	913						
08/14/80	2358	936	3236	1262	25527	673						
08/21/80	2144	775	3295	1343	24703	773						
08/28/80	2499	925	3115	1309	25363	660						
09/04/80	1656	756	6339	1501	25191	933						
09/11/80	151	327	661	810	4686	486						
09/18/80	1221	555	663	932	5539	453						
09/25/80	737	409	1754	961	9848	693						
10/02/80	3284	1311	761	389	11310	600						
10/09/80	632	427	2184	922	16114	594						
10/16/80	2343	926	2370	1168	22511	692						
10/23/80	1696	816	2035	1164								
10/30/80	1300	777	2552	1053	21804	371						
11/06/80	1665	751	2203	1196	22343	799						
11/13/80	6642	2641	1096	753	22266	671						
11/20/80	1535	660	1041	755	29275	637						
12/04/80	2522	1112	3354	1226	35047	378						
12/11/80	1662	832	690	1724	32600	775						
12/18/80	1626	722	3255	1271	31142	1006					(11)	32
01/05/81					30001	1077						
01/09/81												
01/15/81					30151	1048						
01/22/81					28926	843						
01/29/81					29357	731						
02/05/81					28380	1080						
02/12/81					23272	575						
02/19/81					27662	582						

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RADIOCHEMISTRY
HISTORICAL DATA

SAMPLE DATE	ALPHA PCI/L	ERROR	BETA PCI/L	ERROR	TRITIUM PCI/L	ERROR	STRONTIUM 90 PCI/L	ERROR	PLUTONIUM 239 FCI/L	ERROR	AMERICIUM 241 PCI/L	ERROR
02/26/81					27170	852						
03/12/81					7288	701						
03/26/81					17907	1030						
04/02/81					11452	613						
04/10/81					16705	664						
04/16/81					25249	974						

SUMP 2

**SOLAR POND CLOSURE CHARACTERIZATION REPORT
ROCKY FLATS PLANT, GOLDEN, COLORADO 1 JULY 1988**

APPENDICES

SIMP 2
RADIOCHEMISTRY
HISTORICAL DATA

SAMPLE DATE	PC1/L	ALPHA PC1/L ERROR	BETA PC1/L ERROR	TRITIUM PC1/L ERROR	STRONTIUM 90 PC1/L ERROR		PLUTONIUM 239 PC1/L ERROR		AMERICIUM 241 PC1/L ERROR
					PC1/L	PC1/L ERROR	PC1/L	PC1/L ERROR	
01/02/75	740			3544.0	1471				
01/09/75	960			3723.0	1421				
01/16/75	850			3538.6	1016				
01/23/75	830			4568.0	2282				
01/30/75	670			4851.0	2362				
02/06/75	1400			3411.3	988				
02/13/75	710			3353.4	973				
02/20/75	440			3953.4	3107				
02/27/75	1490			3558.8	1645				
03/06/75	5200			1967	1664				
03/13/75	190			3621	1588				
03/20/75	31			7097	870				
03/31/75	260			7238	911				
04/10/75	210			3930.6	1100				
04/17/75	900			2438	1214				
04/24/75	540			6000	1340.0	2000			
05/01/75	610			2666	2613.9	977			
05/08/75	240			1600	2962.7	932			
05/15/75	400			6500					
05/22/75	210			2300					
05/29/75	240			2300					
06/05/75	250			2500					
06/12/75	450			7360					
06/19/75	170			2200					
06/26/75	770			3446					
07/03/75	19			3300					
07/10/75	1200			5300					
07/17/75	2500			4300					
07/24/75	1500			4390					
07/31/75	2300			1300					

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RADIOCHEMISTRY
HISTORICAL DATA

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RADIOCHEMISTRY
HISTORICAL DATA

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RADIOCHEMISTRY
HISTORICAL DATA

SAMPLE DATE	ALPHA PCI/L	BETA PCI/L	TRITIUM PCI/L	STRONTIUM 90 PCI/L	PLUTONIUM 239 PCI/L	AMERICIUM 241 PCI/L
	ERROR	ERROR	ERROR	ERROR	ERROR	ERROR
10/28/76	550	5800				
11/04/76	1000	1500				
11/11/76	300	4500				
11/18/76	300	1900				
11/26/76	200	600				
12/02/76	1700	2300				
12/09/76	1200	3400				
12/16/76	1300	6300				
12/22/76	1100	900				
12/29/76	990	3800				
01/06/77	1300	3400				
01/13/77	580	3800				
01/20/77	2000	1500				
01/27/77	1800	4500				
02/03/77	1200	480				
02/10/77	770	870				
03/03/77	1200	3600				
03/10/77	1400	390				
03/17/77	550	670				
03/24/77	3100	4000				
03/31/77	1400	3700				
04/07/77	36	220				
04/14/77	1700	1100				
04/21/77	480	340				
04/28/77	760	790				
05/05/77	970	930				
05/12/77	1100	1100				
05/19/77	350	670				
05/26/77	430	1100				
06/02/77	1000	940				

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RADIOCHEMISTRY
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SAMPLE DATE	ALPHA PCI/L	BETA PCI/L	TRITIUM PCI/L	STRONTIUM 90 PCI/L	PLUTONIUM 239 PCI/L	AMERICIUM 241 PCI/L
	ERROR	ERROR	ERROR	ERROR	ERROR	ERROR
06/09/77	700	1100				
06/16/77	2100	1300				
06/23/77	1100	990				
06/30/77	1500	2100				
07/07/77	1000	1300				
07/14/77	1200	1100				
07/21/77	660	760				
07/28/77	1330	1110				
08/04/77	920	2400				
08/11/77	1700	3000				
08/18/77	2100	2600				
08/25/77	1800	1800				
09/01/77	590	2100				
09/08/77	2500	1900				
09/15/77	1200	1700				
09/22/77	3100	1300				
09/29/77	1800	1700				
10/06/77	1700	2100				
10/27/77	1700	1700				
11/03/77	1900	1500				
11/10/77	1600	1400				
11/17/77	1100	1200				
12/01/77	1200	1600				
12/08/77	1600	1600				
12/15/77	560	1200				
12/22/77	360	230				
12/29/77	650	630				
01/05/78	1000	630				
01/12/78	370	610				
03/04/78	190	130				

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RADIOCHEMISTRY
HISTORICAL DATA

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RADIOCHEMISTRY
HISTORICAL DATA

SAMPLE DATE	ALPHA		BETA		TRITIUM		STRONTIUM 90		PLUTONIUM 239		AMERICIUM 241	
	PCI/L	ERROR	PCI/L	ERROR	PCI/L	ERROR	PCI/L	ERROR	PCI/L	ERROR	PCI/L	ERROR
10/12/78	3200		1900									
10/19/78	4700		2300									
10/26/78	1100		1400									
11/02/78	1100		3000									
11/09/78	3300		2600									
11/16/78	1800		3000									
11/30/78	6300		2000									
12/14/78	3100		2000									
12/21/78	3600		1900									
01/04/79	6900		1500									
01/11/79	2300		1600									
01/18/79	1400		1400									
01/25/79	1500		1500									
02/01/79	3200		2500									
02/08/79	1600		1500									
02/15/79	1200		1000									
02/22/79	601		1016									
03/01/79	212		1600		32143	1113						
03/08/79	13000		1300		25860	965						
03/15/79	6300		1500		27210	1154						
03/22/79	48		463									
03/29/79	1614		1410		15345	363						
04/02/79	539		651		1504	872						
04/19/79	2400		1300		20415	1013						
04/26/79	55		926		24652	695						
05/03/79	1500		364		7403	559						
05/10/79	73		316		6967	639						
05/13/79	1100		1700		25011	1127						
05/21/79	5100		1600		23564	1030						
05/31/79	626		1000		17352	774						

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SUMP 2
RADIOCHEMISTRY
HISTORICAL DATA

SAMPLE DATE	ALPHA PCI/L	ERROR	BETA PCI/L	ERROR	TRITIUM PCI/L	ERROR	STRONTIUM 90 PCI/L	ERROR	PLUTONIUM 239 PCI/L	ERROR	AMERICIUM 241 PCI/L	ERROR
06/07/79	332		2400		28375	1146						
06/14/79	264		2000		23227	540						
06/21/79	491		2300		28105	1194						
06/28/79	942		2600		30339	1127						
07/05/79	509		3300		33961	904						
07/12/79	1600		2200		31259	1156						
07/19/79	732		3400		35418	1299						
07/26/79	392		3400		34664	987						
08/02/79	417		3400		36116	1264						
08/16/79	729		1900									
08/23/79	19		1300									
08/30/79	219		3200									
09/06/79	565		2600		35348	635						
09/13/79	731		4100		40630	1341						
09/20/79	709		3800		37861	990						
09/27/79					39004	1214						
10/11/79	201		3600									
10/18/79	467		3500									
10/25/79	2400		3900									
11/08/79	441		3200									
11/15/79	481		1600									
11/29/79	1900		1500									
12/06/79	260		629		14468	603						
12/13/79	31		963		13158	705						
12/20/79	2200		1400		27003	1300						
01/03/80	954		320		15456	553						
01/10/80	2300		854		17475	694						
01/17/80	1400		1200		20120	1008						
01/24/80	3400		1200		21914	598						
01/31/80	669		600		13301	536						

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HISTORICAL DATA

SAMPLE DATE	ALPHA		BETA		TRITIUM		STRONTIUM 90		PLUTONIUM 239		AMERICIUM 241	
	PCI/L	ERROR	PCI/L	ERROR	PCI/L	ERROR	PCI/L	ERROR	PCI/L	ERROR	PCI/L	ERROR
02/07/80	991		(5		21222	896						
02/14/80	1300		1300		21144	973						
02/21/80	897		209		16668	733						
02/29/80	3000		2200		20581	909						
03/06/80	1600		1200		19683	612						
03/13/80	1100		254		19207	857						
03/20/80	1500		1100		1830	898						
03/27/80	2300	1200	1096	348	17079	663						
04/03/80	584	209	822	301	8127	404						
04/09/80	832	341	596	262	12793	812						
04/17/80	955	324	625	257	10998	634						
04/24/80	282	165	441	225	3268	626						
05/01/80	1630	907	297	216	7388	728						
05/08/80	536	128	566	234	7245	543						
05/15/80	824	318	567	258	8012	570						
05/22/80	1220	522	919	312	9743	707						
05/27/80	955	49	739	276	11559	666						
06/03/80	1343	445	1155	350	13137	399						
06/12/80	2294	892	1664	640	19121	561						
06/19/80	2957	1500	1467	433	20121	638						
06/26/80	1147	696	1352	376	20715	606						
07/03/80	3000	1400	1700	660	22144	474						
07/10/80	2301	831	1600	440	24891	646						
07/17/80	1172	409	2617	637	23357	800						
07/24/80	2303	913	2172	565	24953	976						
07/31/80	1320	667	1377	680	25264	764						
08/07/80	3791	1263	1740	1052	25764	965						
08/14/80	3436	1164	3136	1303	25624	629						
08/21/80	2774	1003	1797	1036	21933	724						
08/28/80	2036	216	1954	1110	22972	751						

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HISTORICAL DATA

SAMPLE DATE	ALPHA		BETA		TRITIUM		STRONTIUM 90		PLUTONIUM 239		AMERICIUM 241	
	PCI/L	ERROR	PCI/L	ERROR	PCI/L	ERROR	PCI/L	ERROR	PCI/L	ERROR	PCI/L	ERROR
09/04/80	3248	1069	2298	1167	27728	987						
09/11/80	3133	1033	1727	1091	26804	790						
09/18/80	1119	555	150	963	25635	695						
09/25/80	2519	961	2284	1106	22573	957						
10/02/80	7710	2490	1205	987	23214	751						
10/09/80	3335	1469	2505	1063	19013	612						
10/16/80	2945	1103	1407	1026	23536	705						
10/23/80	3886	1549	2512	1173								
10/30/80	3422	1353	1795	873	24113	595						
11/06/80	3154	1320	2420	1138	26221	835						
11/13/80	5667	3130	1316	866	25886	701						
11/20/80	2604	1103	215	122	25619	620						
12/04/80	2079	858	2897	1258	22545	742						
12/11/80	1316	720	2236	1128	73782	708						
12/18/80	1736	825	3161	1181	22247	937					33	(36)
01/08/81					20051	942						
01/09/81												
01/15/81					16295	855						
01/22/81					16022	677						
01/29/81					15848	594						
02/05/81					17356	693						
02/19/81					3976	577						
02/26/81					13821	660						
03/12/81					9259	733						
03/19/81					10710	623						
03/26/81					15300	353						
04/09/81					16135	705						
04/16/81					16412	349						
04/22/81					17145	785						

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SAMPLE DATE	ALPHA		BETA		TRITIUM		STRONTIUM 90		PLUTONIUM 239		AMERICIUM 241	
	PCI/L	ERROR	PCI/L	ERROR	PCI/L	ERROR	PCI/L	ERROR	PCI/L	ERROR	PCI/L	ERROR
01/02/75	160				6802	703						
01/09/75	230				12253	886						
01/16/75	180				25921	873						
01/23/75	260				7138	1754						
01/30/75	200				10233	1810						
02/06/75	430				17192	734						
02/13/75	230				29118	904						
02/20/75	54				2770	2425						
02/27/75	520				20124	1814						
03/06/75	260				20932	1869						
03/13/75	530				21215	1793						
03/20/75	250				2157	968						
03/31/75	600				9498	776						
04/10/75	52				22347	1150						
04/17/75	300				13353	890						
04/24/75	400		740		3700	1000						
05/01/75	310		380		19645	778						
05/08/75	310		2000		22433	306						
05/15/75	340		2200									
05/22/75	250		2300		12760	541						
05/29/75	75		9000		3667	583						
06/05/75	230		6600		14849	773						
06/12/75	120		4500		17936	1072						
06/19/75	130		1700		12990	561						
06/26/75	63		1200		5600	740						
07/03/75	7		1000		20340	416						
07/10/75	130		4100		8712	545						
07/17/75	300		4000		17790	746						
07/24/75	440		3100		20774	794						
07/31/75	590		3100		23220	856						

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SAMPLE DATE	ALPHA PCI/L	BETA PCI/L	TRITIUM PCI/L	STRONTIUM 90 PCI/L	PLUTONIUM 239 PCI/L	AMERICIUM 241 PCI/L
	ERROR	ERROR	ERROR	ERROR	ERROR	ERROR
08/07/75	600	5600	14945	705		
08/14/75	530	2100	11283	604		
08/21/75	140	1100	13154	645		
08/28/75	1000	9500	15595	366		
09/04/75	640	2000	16606	719		
09/11/75	900	390	12681	651		
09/18/75	330	350	13998	684		
09/25/75	100	160	13252	907		
10/02/75	650	880	13959	676		
10/09/75	130	330	13216	915		
10/16/75	280	480	11671	612		
10/23/75	160	670	11783	630		
10/30/75	130	3600	10624	624		
11/06/75	1000	370	11359	461		
11/13/75	230	560	17502	1011		
11/21/75	250	340	14933	412		
12/04/75	250	110	16319	734		
12/11/75	1100	680	11502	606		
12/18/75	150	170	15593	704		
12/26/75	210	320	12386	336		
01/02/76	1200	940				
01/15/76	53	2700				
01/22/76	310	930				
01/29/76	210	720				
02/05/76	630	350				
02/12/76	460	170				
02/19/76	140	52				
02/26/76	260	170				
03/04/76	170	250				
03/11/76	62	240				

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SAMPLE DATE	ALPHA PCI/L	BETA PCI/L	TRITIUM PCI/L	STRONTIUM 90 PCI/L	PLUTONIUM 239 PCI/L	AMERICIUM 241 PCI/L
	ERROR	ERROR	ERROR	ERROR	ERROR	ERROR
06/02/77	59	51				
06/09/77	190	310				
06/16/77	540	3900				
06/23/77	190	340				
06/30/77	120	320				
07/07/77	74	120				
07/14/77	92	340				
07/21/77	34	650				
07/28/77	200	350				
08/04/77	230	570				
08/11/77	100	340				
08/18/77	200	560				
08/25/77	87	350				
09/01/77	74	270				
09/08/77	110	460				
09/15/77	42	150				
09/22/77	140	330				
09/29/77	1100	2300				
10/20/77	240	250				
10/27/77	260	100				
11/03/77	65	160				
11/10/77	190	2900				
11/17/77	200	290				
12/01/77	130	250				
12/08/77	65	180				
12/15/77	170	150				
12/22/77	77	75				
12/29/77	90	150				
01/05/78	150	170				
01/12/78	30	77				

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SAMPLE DATE	ALPHA PCI/L	BETA PCI/L	TRITIUM PCI/L	STRONTIUM 90 PCI/L	PLUTONIUM 239 PCI/L	AMERICIUM 241 PCI/L
	ERROR	ERROR	ERROR	ERROR	ERROR	ERROR
01/19/78	58	290				
01/26/78	69	230				
02/02/78	60	210				
02/09/78	67	120				
02/16/78	78	90				
02/23/78	140	220				
03/02/78	120	300				
03/09/78	52	190				
03/16/78	52	140				
03/23/78	36	39				
03/30/78	96	31				
04/06/78	66	49				
04/13/78	100	31				
04/20/78	96	91				
04/27/78	74	190				
05/04/78	26	65				
05/11/78	54	60				
05/12/78	170	160				
05/25/78	101	314				
06/01/78	69	24				
06/08/78	73	190				
06/15/78	2200	190				
06/22/78	81	420				
06/29/78	250	570				
07/06/78	160	410				
07/13/78	100	200				
07/20/78	290	510				
07/27/78	130	430				
08/03/78	120	560				
08/10/78	120	380				

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SAMPLE DATE	ALPHA PCI/L	BETA PCI/L	TRITIUM PCI/L	STRONTIUM 90 PCI/L	PLUTONIUM 239 PCI/L	AMERICIUM 241 PCI/L
	ERROR	ERROR	ERROR	ERROR	ERROR	ERROR
03/29/79	277	332	9906	792		
04/02/79	96	64	1504	872		
04/19/79	55	82	9677	1070		
04/26/79	157	300	12646	556		
05/03/79	62	27	3994	623		
05/10/79	60	35	3621	616		
05/18/79	150	189	10359	855		
05/21/79	116	180	9564	837		
05/31/79	51	120	3567	597		
06/07/79	14	13	6619	767		
06/14/79	73	164	7368	852		
06/21/79	125	58	10166	904		
06/28/79	98	350				
07/05/79	126	666	6614	561		
07/12/79	15	393	6907	615		
07/19/79	62	670	6259	660		
07/26/79	95	288	7709	620		
08/02/79	133	360	7068	633		
08/09/79	45	45				
08/16/79	114	232				
08/23/79	15	303				
08/30/79	131	190				
09/07/79			9805	694		
09/13/79	31	294	9189	709		
09/20/79	63	205	7326	513		
09/27/79			9806	765		
10/11/79	131	78				
10/18/79	143	263				
10/25/79	196	265				
11/08/79	9	303				

**HISTORICAL DATA
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SAMPLE DATE	ALPHA PC/L ERROR	BETA PC/L ERROR	TRITIUM PC/L ERROR	PLUTONIUM 239		STRONTIUM 90 PC/L ERROR	AMERICIUM 241 PC/L ERROR
				PC/L	PC/L		
11/15/79	125	138	6347	408	408	683	408
12/06/79	166	66	8739	561	561	879	561
12/13/79	697	105	9363	552	552	979	552
12/20/79	157	159	10055	623	623	11951	623
01/03/80	111	146	10681	821	821	9363	821
01/10/80	125	119	10512	683	683	11554	683
01/17/80	263	41	11554	731	731	7910	731
01/24/80	176	133	7910	775	775	130	775
01/31/80	13	76	9249	664	664	10512	664
02/07/80	61	354	9805	575	575	11554	575
02/14/80	117	130	9632	730	730	10681	730
02/21/80	30	15	10681	694	694	10512	694
02/25/80	304	112	10512	6094	6094	11554	6094
03/06/80	134	229	10681	780	780	10512	780
03/13/80	241	36	16110	969	969	11554	969
03/20/80	96	96	9683	555	555	10512	555
03/27/80	176	207	9683	438	438	9363	438
04/03/80	432	209	438	666	666	1309	666
04/10/80	10	63	4979	668	668	1309	668
04/17/80	122	33	122	562	562	122	562
04/24/80	76	111	191	574	574	1309	574
05/01/80	0	206	123	632	632	2574	632
05/08/80	31	62	73	3205	495	2574	495
05/15/80	52	22	91	6023	6023	122	6023
05/22/80	106	71	123	6191	6191	1309	6191
05/29/80	200	131	166	596	596	2574	596
06/12/80	60	69	63	553	553	6333	553
06/19/80	104	39	134	4023	4023	2574	4023
06/26/80	160	92	233	6023	6023	335	6023
				6191	6191	233	6191
				7347	7347	19	7347
				452	452	19	452

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SAMPLE DATE	ALPHA		BETA		TRITIUM		STRONTIUM 90		PLUTONIUM 239		AMERICIUM 241	
	PCI/L	ERROR	PCI/L	ERROR	PCI/L	ERROR	PCI/L	ERROR	PCI/L	ERROR	PCI/L	ERROR
07/03/80	176	97	155	207	5234	364						
07/10/80	161	96	269	209	5411	407						
07/17/80	266	184	196	209	6872	595						
07/24/80	123	94	123	176	4327	576						
07/31/80	125	102	1112	519	5842	562						
08/07/80	172	103	178	190	5259	602						
08/14/80	114	81	456	268	6289	455						
08/21/80	137	93	22	182	3762	461						
08/28/80	108	97	133	163	4698	681						
09/04/80	91	88	108	183	4253	549						
09/11/80	105	75	169	184	4966	481						
09/18/80	197	123	72	202	4098	612						
09/25/80	131	111	89	179	4413	625						
10/02/80	719	269	108	133	5304	519						
10/09/80	60	31	101	186	5320	667						
10/16/80	255	163	162	130	5605	687						
10/23/80	100	97	-9	164								
10/30/80	319	165	139	192	4972	558						
11/06/80	266	141	156	173	5449	550						
11/13/80	370	266	274	181	6732	530						
11/20/80	100	51	36	167	4243	466						
12/04/80	198	124	310	239	5149	496						
12/11/80	156	90	190	177	5926	696						
12/18/80	67	97	153	171	3575	561						
01/05/81					3743	660						
01/15/81					3828	591						
01/22/81					4533	690						
01/29/81					4686	660						
02/05/81					3766	629						
02/12/81					4817	615						

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SAMPLE DATE	ALPHA PCI/L	ERROR	BETA PCI/L	ERROR	TRITIUM PCI/L	ERROR	STRONTIUM 90 PCI/L	ERROR	PLUTONIUM 239 PCI/L	ERROR	AMERICIUM 241 PCI/L	ERROR
02/19/81					6603	575						
02/26/81					5016	523						
03/05/81					5666	699						
03/12/81					2610	587						
03/19/81					2803	476						
03/26/81					5625	620						
04/02/81					3620	699						
04/09/81					3578	692						
04/16/81					8455	708						
04/22/81					8643	762						

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SAMPLE DATE	ALPHA		BETA		TRITIUM		STRONTIUM 90		PLUTONIUM 239		AMERICIUM 241	
	PCI/L	ERROR	PCI/L	ERROR	PCI/L	ERROR	PCI/L	ERROR	PCI/L	ERROR	PCI/L	ERROR
11/15/79	566		225									
12/06/79	670		258		4154	549						
12/13/79	357		276		7039	568						
12/20/79	426		228		6327	682						
01/03/80	419		339		5317	480						
01/10/80	397		156		5485	471						
01/17/80	377		210		5260	609						
01/24/80	625		123		5598	591						
01/31/80	66		61		6294	612						
02/07/80	166		36		6780	707						
02/14/80	306		157		6716	526						
02/21/80	17		5		6936	496						
02/28/80	387		79		5979	969						
03/06/80	204		149		5507	616						
03/13/80	262		36		5899	750						
03/20/80	233		105		6310	597						
03/27/80	255	135	210	155	4604	457						
04/03/80	107	76	110	158	1066	392						
04/10/80	254	124	92	186	4874	666						
04/17/80	231	130	33	171	4388	504						
04/24/80	141	97	139	192	(/-765							
05/01/80	162	142	-23	130	1357	579						
05/08/80	57	51	12	240	2203	476						
05/15/80	64	62	33	139	1369	463						
05/22/80	155	91	172	197	1535	542						
05/27/80	104	32	191	30	6195	516						
06/03/80	29	45	166	172	552	535						
06/12/80	130	32	193	196	5361	485						
06/19/80	313	144	642	262	5450	465						
06/26/80	97	116	150	205	5307	513						

SAMPLE DATE	AMPHIA	PCI/L ERROR	BETA	TRITIUM	STRONTIUM 90	PLUTONIUM 239	AMERICIUM 241
07/03/58	362	160	172	217	5386	356	
07/10/58	307	128	252	266	5386	356	
07/17/58	372	157	239	210	5750	523	615
07/24/58	346	162	289	211	7209	626	
07/31/58	362	169	223	226	7222	566	
08/07/58	551	155	237	223	9612	681	
08/14/58	390	155	638	270	5509	446	
08/21/58	357	168	466	466	5586	693	
08/28/58	231	111	166	263	3993	662	
09/11/58	661	169	203	216	179	6851	690
09/18/58	179	98	113	192	3676	612	
09/25/58	246	98	203	216	2857	566	
10/02/58	5607	130	220	200	2080	590	
10/09/58	2793	66	179	179	2456	673	
10/16/58	223	110	110	172	2367	631	
10/23/58	136	87	96	162			
10/30/58	669	206	232	131	3362	524	
11/06/58	293	157	192	196	3123	570	
11/13/58	1389	557	63	160	3466	638	
11/20/58	279	151	192	196	3123	570	
12/04/58	360	165	103	196	5551	672	
12/11/58	226	130	201	215	5233	636	
12/18/58	131	116	562	267	667	671	
01/05/59	226	130	667	233	7966	616	
01/12/59	131	116	6996	625	637	670	
01/19/59	226	130	6996	625			(26)

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RADIOCHEMISTRY
HISTORICAL DATA

SAMPLE DATE	ALPHA PCI/L	BETA PCI/L	TRITIUM PCI/L	STRONTIUM 90 PCI/L	PLUTONIUM 239 PCI/L	AMERICIUM 241 PCI/L
02/19/81			3610	520		
02/26/81			6591	516		
03/05/81			1944	699		
03/12/81			765	559		
03/26/81			3525	599		
04/02/81			?			
04/09/81			2685	679		
04/16/81			1381	566		
04/22/81			953	539		

APPENDIX D-3
INORGANICS

SOLAR POND CLOSURE CHARACTERIZATION REPORT
ROCKY FLATS PLANT, GOLDEN, COLORADO 1 JULY 1988

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207 SOLAR PONDS

SOLAR POND CLOSURE CHARACTERIZATION REPORT
ROCKY FLATS PLANT, GOLDEN, COLORADO 1 JULY 1988

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SOLAR FOND 207C
INORGANICS
HISTORICAL DATA

SAMPLE DATE	NITRATE AS N MG/L	PH	CHLORIDE MG/L	CYANIDE MG/L	FLUORIDE MG/L	SULFATE MG/L	TDS MG/L	CHROME 6 MG/L	PHENOL	SURFACTANTS MG/L
05/15/76	31600	9.5	6200	350	780	29100	276000	0.05	0.014	0.48
05/15/75	37700	9.5		50			283400			
12/15/75	64100	9.7		NA			302400			
04/15/76	21000	9.8		0.39			230100			
05/15/76	37500	9.7		1.0			282200			
04/15/77	31000	9.5		0.2			215000			
08/15/77	24000	9.5		0.4			186240			
11/15/77	60000	9.5					300000			
12/15/77	49800	9.6					373000			
01/15/78	66000	9.6					354000			
02/15/78	43900	9.6					333200			
03/15/78	66300	9.6					357200			
04/15/78	68900	9.5					356700			
05/15/78	8400	9.7					61260			
06/15/78	10800	9.5					91040			
07/15/78	19000	9.6					132630			
08/15/78	20000	9.6		2.4			150000			
08/16/79	36000	9.7					257320			
09/15/78	36700	9.8					273280			
10/15/79	20500	9.3					144750			
11/15/78	13000	9.6					96460			
12/15/78	19000	9.6					141750			
01/15/79	23600	9.6					171700			
03/15/79	27600	9.7					169760			
07/23/79	11600	10.2					90120			
08/15/79		10.3					97000			
09/15/79		10.4					117130			
07/10/80		9.9					54513			
08/06/80		9.7					67459			
08/12/80		9.7					7500			

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SOLAR POND 207C
INORGANICS
HISTORICAL DATA

SAMPLE DATE	NITRATE AS N MG/L	PH	CHLORIDE MG/L	CYANIDE MG/L	FLUORIDE MG/L	SULFATE MG/L	TDS MG/L	CHROME 6 MG/L	PHENOL	SURFACTANTS MG/L
09/12/80		9.7					69902			
09/15/80		9.7					69900			
10/15/80		9.6					26942			
10/15/80		9.6					26900			
11/24/80		9.5					28487			
12/03/80		10.0					68335			
01/27/81		10.0					51635			
02/25/81		10.1					31930			
03/12/81		9.5					19370			
04/23/81		9.5					17380			
05/15/81		9.7					19871			
06/23/81		10.1					18600			
07/29/81		10.2					22300			
09/15/81	6900	10.1		2.4			38224		6900	
10/26/81	5000	10.0		12.9			31600			
07/06/82		10.5					275			
06/03/82		10.6					10396			
10/07/82	640	10.4					12391			
12/06/82		9.4					261			
03/22/84	0.4	9.7					2090			
06/05/84	2650	9.6					2109			
09/13/84	7100	10.0					66757			
12/05/84	7050	9.5					66432			
03/25/85	2593	7.7		1.9			27304			
06/25/85	5000	10.7		(0.01)			6420			
09/11/85	15841	10.5		(0.1)			171135			

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SOLAR FOND 207A
INORGANICS
HISTORICAL DATA

SAMPLE DATE	NITRATE AS N MG/L	PH	CHLORIDE MG/L	CYANIDE MG/L	FLUORIDE MG/L	SULFATE MG/L	OIL/GREASE MG/L	TDS MG/L	CHROME 6 MG/L	PHENOL	SURFACTANTS MG/L	AMMONIA AS N CYANATE MG/L	NITRITE AS N MG/L
09/15/70	23000	9.6	4050		100	4270		153600			7	20	
09/15/73	16900		2900	0.2									
05/15/74	11300	10	3200	650	560	14300	2.6	112600	0.05	0.009	0.59		0.07
12/15/74	21900	9.9											
04/15/75	13500	10.2		4				136500					
12/15/75	18500	10.7		NA				13700					
04/15/76	13000	10.9		0.35				135200					
08/15/76	17400	10.6		0.3				138500					
04/15/77	17000	10.3		2.0				131000					
09/15/77	18000	10.5		0.1				134210					
08/15/78	17000	11.4		2.0				129000					
07/10/80	7100	9.7		4.4				89460					
09/12/80	13400	10.2		16				115000					
09/15/80		10.2						115000					
12/03/80	10260	10.5		9.6				81000					
03/12/81	6328	10.2		1.4				44230					
10/07/82	240	10.9						64917					
03/08/82	924	9.9		2.6				55070					
03/22/83	3790	9.9		0.1				24600					
06/15/83	99	9.3		(0.1)				1300					
09/06/83	3570	10.7		(0.5)				25894					
03/05/84	5000	10.5		(0.1)				36000					
06/05/84	5150	9.9		0.6				4333					
09/13/84	(1.0)	11.0		(0.1)				403					
09/13/84	(1.0)	11.0		(0.1)				403					
12/05/84	5.0	5.3		(0.05)				929					
03/05/85	7300	10.0		(0.1)				5340					
06/25/85	14300	10.1		(0.01)				10360					
09/11/85	21739	10.0		1.7				171976					

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SOLAR FUND 2078 SOUTH
INORGANICS
HISTORICAL DATA

SAMPLE DATE	NITRATE AS N MG/L	pH	TOC MG/L	SUSPENDED SOLIDS MG/L	BOD MG/L
12/11/75	4.7	7.3	10.0	9.9	15
12/15/75					3.3 DAYS
03/02/79					6
04/11/79					
03/29/79					
05/31/76					
09/04/79					
09/05/79					
09/07/79					
09/10/79					
09/12/79					
09/14/79					
09/17/79					
09/19/79					
09/21/79					
09/24/79					
09/25/79					
09/27/79					
10/01/79					
10/03/79					
10/05/79					
10/06/79					

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SOLAR FOND 207B NORTH
INORGANICS
HISTORICAL DATA

SAMPLE DATE	NITRATE AS N mg/L	pH
05/09/75	5	7.1
12/08/78		
12/15/78		10.1
03/15/83	590	5.7
03/22/83	415	2.0
03/29/83	440	5.1
06/05/84		
06/12/84		
06/19/84	674	9.3
06/26/84	675	9.6
07/03/84		
07/10/84		
07/17/84		
07/24/84		
07/31/84		
10/30/84		
11/06/84		
11/13/84		
11/20/84		5.9
12/02/84	451	7.1

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SOLAR FOND 2078 CENTER
INORGANICS
HISTORICAL DATA

SAMPLE DATE NITRATE AS N
mg/L

06/15/83	34.9	9.5
06/22/83	10.1	10.7
06/29/83	5.1	10.5
06/05/84		
06/12/84		
06/19/84	1.9	3.2
06/26/84	1.9	5.9
07/03/84		
07/10/84		
07/17/84		
07/24/84		
07/31/84		
10/30/84		
11/06/84		
11/13/84		
11/13/84	50.3	9.9
12/01/84	34.3	9.5

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SOLAR POND CLOSURE CHARACTERIZATION REPORT
ROCKY FLATS PLANT, GOLDEN, COLORADO 1 JULY 1988

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ROCKY FLATS PLANT, GOLDEN, COLORADO 1 JULY 1988**

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ROCKY FLATS PLANT, GOLDEN, COLORADO 1 JULY 1988

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**SOLAR POND CLOSURE CHARACTERIZATION REPORT
ROCKY FLATS PLANT, GOLDEN, COLORADO 1 JULY 1988**

APPENDICES

SAMPLE DATE	NITRATE AS N	PH	TOD	CONDUTIVITY	NITRATE	COO	TS	TDS	M6/L	PPM/PPB	PPM/PPB
-------------	--------------	----	-----	-------------	---------	-----	----	-----	------	---------	---------

HISTORICAL DATA

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03/29/79	200	743	759	60/03/79	600	700	700	700	700	06/26/79	06/19/79
06/02/79	200	743	759	60/10/79	600	600	600	600	600	05/18/79	05/31/79
06/19/79	200	743	759	60/07/79	500	500	500	500	500	05/21/79	05/31/79
06/26/79	200	743	759	60/05/79	400	400	400	400	400	07/05/79	07/12/79
07/12/79	1000	1000	1000	07/02/79	300	300	300	300	300	07/26/79	07/19/79
07/19/79	1000	1200	1200	08/02/79	300	300	300	300	300	08/09/79	08/16/79
08/16/79	1200	1200	1200	08/23/79	300	1000	1000	1000	1000	08/30/79	09/06/79
08/30/79	1000	1200	1200	09/13/79	300	1200	1200	1200	1200	09/20/79	10/01/79
09/20/79	1200	1200	1200	10/08/79	1000	1100	1100	1100	1100	10/15/79	11/02/79
10/15/79	1100	1100	1100	10/22/79	1000	1000	1000	1000	1000	10/29/79	11/06/79
11/06/79	1000	1000	1000	10/18/79	1000	1000	1000	1000	1000	10/26/79	11/03/79
11/03/79	1000	1000	1000	10/29/79	1000	1000	1000	1000	1000	11/10/79	12/06/79

SUMP 6
INORGANICS
HISTORICAL DATA

SAMPLE DATE	NITRATE AS N mg/L	pH	TOC mg/L	CONDUCTIVITY µMhos/cm	NITRATE mg/L	COO mg/L	TS mg/L	PCB PPM/PPB	PENIC. PPM/PPB
12/13/79					1200				
12/20/79					1200				
01/03/80					900				
01/10/80					1000				
01/17/80					661				
01/24/80					1022				
01/31/80					1000				
02/07/80					1000				
02/14/80					660				
02/21/80					320				
02/28/80					991				
03/06/80					961				
03/13/80					924				
03/20/80					1001				
03/27/80					929				
04/03/80					750				
04/10/80					779				
04/17/80					725.0				
04/24/80					169.3				
05/01/80					216.0				
05/08/80					251				
05/15/80					190				
05/22/80					165				
05/27/80					760				
06/03/80					101				
06/10/80					150				
06/17/80					940				
06/24/80					1100				
07/01/80					1065				
07/10/80					1229				

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INORGANICS

HISTORICAL DATA

SAMPLE DATE	NITRATE AS N mg/L	pH	TOC mg/L	CONDUCTIVITY mhos/cm	NITRATE mg/L	TS mg/L	PCB PPM/PPB	PENOL PPM/PPB
07/17/98				1216				
07/24/98				1366				
07/31/98				1446				
08/07/98				417				
08/14/98				752				
08/21/98				1237				
08/25/98				592				
09/04/98				693				
09/11/98				1066				
09/15/98				730				
09/25/98				619				
10/02/98				512				
10/09/98				642.3				
10/16/98				522				
10/23/98				765				
10/30/98				297				
11/06/98				1010				
11/13/98				565				
11/20/98				1440				
11/26/98				1335				
12/11/98				1250				
12/13/98				1611.7				

APPENDIX E
CHEMICAL ANALYSES FROM PREVIOUS INVESTIGATIONS

**SOLAR POND CLOSURE CHARACTERIZATION REPORT
ROCKY FLATS PLANT, GOLDEN, COLORADO 1 JULY 1988**

APPENDICES

This appendix contains analytical data from previous investigations at the Solar Ponds Area. The enclosed data are presented in the following order:

Appendix E-1: Chemical Analyses of Solar Ponds Water
 Pond 207A Data
 Pond 207B Data
 Pond 207C Data
 Pond 207A TCLP Sludge Data

Appendix E-2: Laboratory Test Results
 Solar Ponds 207-A AND 207-B
 North Interceptor Trench Pump
 House Buffer Zone April and May 1986

APPENDIX E-1
CHEMICAL ANALYSES OF SOLAR PONDS WATER

**SOLAR POND CLOSURE CHARACTERIZATION REPORT
ROCKY FLATS PLANT, GOLDEN, COLORADO 1 JULY 1988**

APPENDICES

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Pond 207A	Quarterly Water Data Sludge Data	March 1984-September 1985 May 1985
Pond 207B	Weekly Water Data Elemental Water Analyses	January 1984-September 1985 October 1984, April 1985
Pond 207C	Quarterly Water Data	March 1984-September 1985
Pond 207A	Results of TCLP Sludge Analysis	April 1988

POND 207A DATA

SOLAR POND CLOSURE CHARACTERIZATION REPORT
ROCKY FLATS PLANT, GOLDEN, COLORADO 1 JULY 1988

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ANALYTICAL REPORT

ROCKWELL INTERNATIONAL
NORTH AMERICAN SPACE OPERATIONS
P.O. BOX 464
GOLDEN, COLORADO 80401

GENERAL LABORATORY
BUILDING 881

DISTRIBUTION:

C. T. Illsley, HS&E T452B
R. L. Henry, HS&E T452B
✓File

LAB NUMBER: M85-2224
DATE: 10-03-85
ACCOUNT NO: 331

APPROVED:

J. A. Blair

SAMPLE DESCRIPTION

207 A and C Solar Pond - Quarterly - Received: 9-11-85

ANALYSIS RESULTS

<u>Analysis</u>	<u>207 A</u>	<u>207 C</u>
pH (S.U.)	10.0	12.5
NO ₃ ⁻ as N (mg/L)	21739	18841
T. D. S. (mg/L)	171976	171135
CN ⁻ (ppm)	1.7	<0.1
Be (ug/ml)	0.1	0.6
Gross Alpha (pCi/L)	(5.6 ± 0.0) X 10 ⁴	(8.8 ± 0.6) X 10 ³
Gross Beta (pCi/L)	(2.7 ± 0.6) X 10 ⁴	(6.4 ± 1.1) X 10 ³
Pu-239 (pCi/L)	(0.0 ± 4.2) X 10 ²	(1.4 ± 0.3) X 10 ³
Am-241 (pCi/L)	(0.0 ± 1.0) X 10 ³	(1.3 ± 0.1) X 10 ⁴
U (pCi/L)	(2.6 ± 0.2) X 10 ⁴	(1.8 ± 0.3) X 10 ³
³ H (pCi/L)	(3.0 ± 0.8) X 10 ³	(7.2 ± 0.9) X 10 ²

1.6.

ROCKWELL INTERNATIONAL
NORTH AMERICAN SPACE OPERATIONS
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GOLDEN, COLORADO 80401

ANALYTICAL REPORT

GENERAL LABORATORY
BUILDING 881

DISTRIBUTION:

/C. T. Illsley, HS&E T-452B
File

LAB NUMBER: M85-1557

DATE: 7-11-85

ACCOUNT NO: 331

APPROVED: *J. A. Blair*
J. A. Blair

SAMPLE DESCRIPTION

Solar Pond 207A & 207C - Quarterly Received: 6-25-85

ANALYSIS RESULTS

<u>Analysis</u>	<u>207A</u>	<u>207C</u>
pH (S.U.)	10.1	10.7
NO ₃ ⁻ as N (mg/L)	14800	8000
T.D.S. (mg/L)	10360	6420
Be (ug/ml)	0.1	<0.1
Gross Alpha (pCi/L)	2.4×10^4	6.5×10^3
Gross Beta (pCi/L)	$(5.2 \pm 1.0) \times 10^3$	$(1.1 \pm 0.2) \times 10^4$
CN ⁻ (mg/L)	<0.01	<0.01

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NORTH AMERICAN SPACE OPERATIONS
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GOLDEN, COLORADO 80401

ANALYTICAL REPORT

GENERAL LABORATORY
BUILDING 881

DISTRIBUTION:

J. D. Gaskins, Liq Waste Oper, 374
T. Greengard, HS&E T452B

LAB NUMBER: M85-1236
DATE: 10-07-85
ACCOUNT NO: 371

File

APPROVED: *J.B. Blair*
J. A. Blair

SAMPLE DESCRIPTION

207A Solar Pond Water Sludge
(REF: Req No. 2-59838) Received: 5-21-85

ANALYSIS RESULTS

<u>Analysis</u>	<u>Result</u>
pH (S.U.)	9.5
NO ₃ ⁻ as N (mg/L)	8800
Total Dissolved Solids (mg/L)	77300
Total Solids (mg/L)	108700
Specific Gravity (g/ml)	1.08
Be (mg/L)	170
Cr ⁺⁶ (mg/L)	<1.0
Total Alpha	8.6 X 10 ⁵
U-235 (pCi/L)	(2.8 \pm 1.9) X 10 ¹
U-238 (pCi/L)	(5.2 \pm 0.9) X 10 ²
F ⁻ (g/L)	<0.75
Cl ⁻ (g/L)	2.0
PO ₄ ⁻³ (g/L)	<1.0
NO ₃ ⁻ (g/L)	36
SO ₄ ⁻² (g/L)	2.2

See attached sheet for elemental analysis results.

LAB NO: M85-1236
DATE: JULY 12, 1985

ROCKWELL INTERNATIONAL
ENERGY SYSTEMS GROUP
ROCKY FLATS PLANT
881 GENERAL LABORATORY

ANALYSIS REPORT

TO: R.D.GASKINS JR.
CC: FILE

BLDG: 374
DEPT: LIQ. WASTE OPER.

CHARGE: 371

SAMPLE DESCRIPTION:

WATER SLUDGE

EMISSION SPECTROGRAPHIC RESULTS

ELEMENT	Mg/L	ELEMENT	Mg/L
Ag	4.3	Mo	.87
Al	>1100	Na	>11000
As	<5.4	Nb	11
B	11	Ni	22
Ba	3.3	P	760
Be	9.8	Pb	7.6
Bi	<.54	Rb	11
Ca	>1100	Sb	<1.1
Cd	33	Se	** 0
Ce	<110	Si	220
Co	.98	Sn	<1.1
Cr	65	Sr	54
Cs	<11	Ta	<1.1
Cu	43	Te	<11
Fe	110	Th	<1.1
Ge	<.54	Tl	9.8
Hg	<1.1	Tl	<.54
K	>11000	U	<54
Li	98	V	<1.1
Mg	1100	W	<54
Mn	6.5	Zn	7.6
		Zr	2.2

* ATOMIC ABSORPTION SPECTROPHOTOMETRIC RESULTS.
** NOT RUN

TOTAL SOLIDS: 108700

ANALYSIS BY: R2D

PLATE NO: 3028

APPROVED BY ... R. Ashby

ANALYTICAL REPORT

ROCKWELL INTERNATIONAL
ENERGY SYSTEMS GROUP
P.O. BOX 464
GOLDEN, COLORADO 80401

GENERAL LABORATORY
BUILDING 881

DISTRIBUTION:

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R. L. Henry, HS&E T452B
File

LAB NUMBER: M85-0499
DATE: 4-25-85
ACCOUNT NO: 331

APPROVED:

J. A. Blair

SAMPLE DESCRIPTION

207-A Solar Pond - Quarterly - Received: 3-5-85

ANALYSIS RESULTS

<u>Analysis</u>	<u>Results</u>
pH (S.U.)	10.0
NO ₃ as N (mg/L)	7300
T. D. S. (mg/L)	5340
CN ⁻ (ppm)	<0.1
Be (ug/ml)	0.1
Gross Alpha (pCi/L)	(8.4 ± 0.3) X 10 ³
Gross Beta (pCi/L)	(1.2 ± 0.1) X 10 ⁴
Pu-239 (pCi/L)	(1.3 ± 0.6) X 10 ²
Am-241 (pCi/L)	(0.0 ± 1.5) X 10 ²
U (pCi/L)	(9.2 ± 1.1) X 10 ³
³ H (pCi/L)	(1.0 ± 0.4) X 10 ³

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INFO

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GENERAL LABORATORY
BUILDING 881

DISTRIBUTION:

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R. L. Henry, HS&E T452B
File

LAB NUMBER: M84-2975
DATE: 12-24-84
ACCOUNT NO: 331

APPROVED: J. A. Blair
J. A. Blair

SAMPLE DESCRIPTION

Solar Pond 207A - Received: 12-5-84

ANALYSIS RESULTS

<u>ANALYSIS</u>	<u>RESULTS</u>	
pH (S.U.)	8.3	
NO ₃ as N (mg/L)	5.0	
T.D.S. (mg/L)	929	
Be (mg/L)	<0.1	
CN ⁻ (mg/L)	<0.05	
Gross Alpha (pCi/L)	204 ± 120	204
Gross Beta (pCi/L)	21 ± 26	
Pu (pCi/L)	(1.6 ± 0.7) x 10 ²	160
U (pCi/L)	(8.6 ± 7.0) x 10 ¹	86
Am (pCi/L)	(0.0 ± 7.6) x 10 ¹	
H ³ (pCi/L)	(6.2 ± 2.3) x 10 ²	620

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File

LAB NUMBER: M84-2275
DATE: 9-27-84
ACCOUNT NO: 331

APPROVED:


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SAMPLE DESCRIPTION

Solar Pond 207A - Quartley Sample - Received: 9-13-84

ANALYSIS RESULTS

<u>Analysis</u>	<u>Results</u>
pH	11.0
NO ₃ as N (mg/L)	<1.0
TDS (mg/L)	403
Be (ug/L)	<0.1
CN ⁻ (mg/L)	<0.1
Tritium (pCi/L)	(2.8 ± 1.0) × 10 ³
Gross Alpha (pCi/L)	32 ± 16
Gross Beta (pCi/L)	39 ± 40
Pu (pCi/L)	(2.4 ± 1.0) × 10 ²
Am (pCi/L)	(2.0 ± 1.2) × 10 ²
U (pCi/L)	(69 ± 7.9) × 10 ⁻¹

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R. L. Henry T-452B
N. D. Hoffman T-452B
R. D. Gaskins 374
File

LAB NUMBER: M84-1416
DATE: 8/16/84
ACCOUNT NO: 331

APPROVED: *J. A. Palcic*
J. A. Palcic

SAMPLE DESCRIPTION

207A Solar Pond - Quarterly Sample Received: 6/5/84

<u>Analysis</u>	<u>Result</u>
pH (S.U.)	9.9
NO ₃ as N (mg/L)	5150
Total Dissolved Solids (mg/L)	4383
Be (mg/L)	< 0.1
CN ⁻ (mg/L)	0.6
Gross Alpha (pCi/L)	(3.5 ± 2.9) × 10 ³
Gross Beta (pCi/L)	2 ± 27
Pu - 239 (pCi/L)	(1.1 ± 2.4) × 10 ¹
Am - 241 (pCi/L)	(3.8 ± 2.8) × 10 ¹
U (pCi/L)	(6.5 ± 0.4) × 10 ³
³ H (pCi/L)	(4.3 ± 0.8) × 10 ³

NDH

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DISTRIBUTION:
R. L. Henry T452B
C. T. Illsley T452B
File

LAB NUMBER: MB4-558
DATE: 4-10-84
ACCOUNT NO: 331

APPROVED: *J. A. Palcic*
J. A. Palcic

SAMPLE DESCRIPTION

Solar Evaporation Pond 207A - Monthly Sample
Received 3-5-84

ANALYSIS RESULTS

<u>Analysis</u>	<u>Result</u>
Gross Alpha (pCi/L)	(1.9 ± 1.1) × 10 ³
Gross Beta (pCi/L)	(2.2 ± 0.6) × 10 ²
Plutonium (pCi/L)	1.2 × 10 ¹
Americium (pCi/L)	6.5 × 10 ²
Uranium (pCi/L)	4.0 × 10 ³
Beryllium (mg/L)	<0.1
pH	10.5
NO ₃ as N (mg/L)	5000
TDS (mg/L)	36000
CN ⁻ (ppm)	<0.1
Tritium (pCi/L)	1.3 × 10 ³

POND 207B DATA

SOLAR POND CLOSURE CHARACTERIZATION REPORT
ROCKY FLATS PLANT, GOLDEN, COLORADO 1 JULY 1988

APPENDICES

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M. Greengard, T452B HS&E
File

LAB NUMBER: M85-2220

DATE: 10-08-85

ACCOUNT NO: 331

APPROVED:

J. A. Blair

SAMPLE DESCRIPTION

Solar Evaporation Pond 207B 1) North 1) Center
(Weekly Sample) Received: 9-17-85

<u>Analysis</u>	<u>North</u>	<u>Center</u>
pH (S.U.)	9.3	9.3
NO ₃ ⁻ as N (mg/L)	727	1.4
Gross Alpha (pCi/L)	209 \pm 21	7 \pm 3
Gross Beta (pCi/L)	109 \pm 63	59 \pm 4

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J. Greengard, T452B HS&E
File

LAB NUMBER: M85-2157

DATE: 9-30-85

ACCOUNT NO: 331

APPROVED:


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SAMPLE DESCRIPTION

Solar Evaporation Pond 207B 1) North 1) Center
(Weekly Sample)

Received: 9-10-85

<u>Analysis</u>	<u>North</u>	<u>Center</u>
pH (S.U.)	9.2	9.7
NO ₃ ⁻ as N (mg/L)	746	<1.0
Gross Alpha (pCi/L)	268 ± 89	24 ± 5
Gross Beta (pCi/L)	23 ± 16	-4 ± 25

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✓T. Greengard, T452B HS&E
File

LAB NUMBER: M85-2096
DATE: 9-30-85
ACCOUNT NO: 331

APPROVED:


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SAMPLE DESCRIPTION

Solar Evaporation Pond 207B
(Weekly Sample)

1) North 1) Center
Received: 8-27-85

<u>Analysis</u>	<u>North</u>	<u>Center</u>
pH (S.U.)	9.0	10.3
NO ₃ ⁻ as N (mg/L)	716	<1.0
Gross Alpha (pCi/L)	323 ± 33	-4 ± 0
Gross Beta (pCi/L)	96 ± 25	-8 ± 11
Pu-239 (pCi/L)	71.2	•
U- Total (pCi/L)	82.6	*
Am-241 (pCi/L)	57.6	•

* Not requested

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File

LAB NUMBER: M85-2035
DATE: 9-30-85
ACCOUNT NO: 331

APPROVED:

J. A. Blair
J. A. Blair

SAMPLE DESCRIPTION

Solar Evaporation Pond 207B 1) North 1) Center
(Weekly Sample) Received: 8-20-85

<u>Analysis</u>	<u>North</u>	<u>Center</u>
pH (S.U.)	8.7	10.6
NO ₃ ⁻ as N (mg/L)	676	<1.0
Gross Alpha (pCi/L)	113 ± 38	19 ± 5
Gross Beta (pCi/L)	41 ± 10	6 ± 16

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File

LAB NUMBER: M85-1973
DATE: 9-30-85
ACCOUNT NO: 331

APPROVED: J.B. Blair

J. A. Blair

SAMPLE DESCRIPTION

Solar Evaporation Pond 207B
(Weekly Sample)

1) North 1) Center
Received: 8-13-85

<u>Analysis</u>	<u>North</u>	<u>Center</u>
pH (S.U.)	8.8	9.6
NO ₃ ⁻ as N (mg/L)	615	<1.0
Gross Alpha (pCi/L)	110 ± 6	0 ± 0
Gross Beta (pCi/L)	77 ± 5	9 ± 4

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T. Greengard, T452B HS&E
File

LAB NUMBER: M85-1915

DATE: 9-30-85

ACCOUNT NO: 331

APPROVED:


J. A. Blair

SAMPLE DESCRIPTION

Solar Evaporation Pond 207B 1) North 1) Center
(Weekly Sample) Received: 8-6-85

<u>Analysis</u>	<u>North</u>	<u>Center</u>
pH (S.U.)	9.1	10.0
NO ₃ ⁻ as N (mg/L)	590	<1.0
Gross Alpha (pCi/L)	166 \pm 31	6 \pm 2
Gross Beta (pCi/L)	115 \pm 7	29 \pm 8

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~~R~~ D. Gaskins, 374 Liq Wate Ops
A. Greengard, T452B HS&E
File

LAB NUMBER: M85-1860

DATE: 8-9-85

ACCOUNT NO: 331

APPROVED: *J.A. Blair*
J. A. Blair

SAMPLE DESCRIPTION

Solar Evaporation Pond 207B 1) North 1) Center
(Weekly Sample) Received: 7-30-85

<u>Analysis</u>	<u>North</u>	<u>Center</u>
pH (S.U.)	9.1	9.9
NO_3^- as N (mg/L)	627	2.0
Gross Alpha (pCi/L)	200 \pm 86	38 \pm 20
Gross Beta (pCi/L)	57 \pm 12	34 \pm 39

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~~A.~~ Greengard, T452B HS&E
File

LAB NUMBER: M85-1787
DATE: 7-29-85
ACCOUNT NO: 331

APPROVED: 
J. A. Blair

SAMPLE DESCRIPTION

Solar Evaporation Pond 207B 1) North 1) Center
(Weekly Sample) Received: 7-23-85

<u>Analysis</u>	<u>North</u>	<u>Center</u>
pH (S.U.)	8.9	10.3
NO_3^- as N (mg/L)	625	<1.0
Gross Alpha (pCi/L)	169 \pm 14	18 \pm 11
Gross Beta (pCi/L)	52 \pm 15	11 \pm 0

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File

LAB NUMBER: M85-0501
DATE: 3-26-85
ACCOUNT NO: 331

APPROVED: *J.A. Blair*
J. A. Blair

SAMPLE DESCRIPTION

Solar Evaporation Pond 207B 1) North 1) Center
(Weekly Sample) Received: 3-5-85

<u>Analysis</u>	<u>North</u>	<u>Center</u>
pH (S.U.)	*	10.1
NO ₃ as N (mg/L)	*	15.6
Gross Alpha (pCi/L)	*	59 ± 23
Gross Beta (pCi/L)	*	73 ± 0

* No sample received - Pond Frozen

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A. Greengard, T452B HS&E
File

LAB NUMBER: M84-2855
DATE: 12-12-84
ACCOUNT NO: 331

APPROVED: 
J. A. Blair

SAMPLE DESCRIPTION

Solar Evaporation Pond 207B 1) North 1) Center
(Weekly Sample) Received: 11-20-84

<u>Analysis</u>	<u>North</u>	<u>Center</u>
pH (S.U.)	8.0	10.6
NO ₃ as N (mg/L)	579	5.5
Gross Alpha (pCi/L)	217 \pm 80	34 \pm 19
Gross Beta (pCi/L)	11 \pm 24	17 \pm 26

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File

LAB NUMBER: M85-0712
DATE: 4-15-85
ACCOUNT NO: 331

APPROVED: *J.A. Blair*
J. A. Blair

SAMPLE DESCRIPTION

Solar Evaporation Pond 207B 1) North 1) Center
(Weekly Sample) Received: 3-26-85

<u>Analysis</u>	<u>North</u>	<u>Center</u>
pH (S.U.)	9.2	10.1
NO ₃ as N (mg/L)	492	5.1
Gross Alpha (pCi/L)	186 ± 105	26 ± 7
Gross Beta (pCi/L)	156 ± 54	17 ± 2

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✓T. Greengard, T452B HS&E
File

LAB NUMBER: M85-0433
DATE: 3-26-85
ACCOUNT NO: 331

APPROVED:

J. A. Blair

SAMPLE DESCRIPTION

Solar Evaporation Pond 207B 1) North 1) Center
(Weekly Sample) Received: 2-26-85

<u>Analysis</u>	<u>North</u>	<u>Center</u>
pH (S.U.)	*	10.4
NO ₃ as N (mg/L)	*	3.4
Gross Alpha (pCi/L)	*	-2 ± 10
Gross Beta (pCi/L)	*	38 ± 19

* No sample received - Pond Frozen.

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T. Greengard, T452B HS&E
File

LAB NUMBER: M84-3027
DATE: 12-24-84
ACCOUNT NO: 331

APPROVED: 
J. A. Blair

SAMPLE DESCRIPTION

Solar Evaporation Pond 207B 1) North 1) Center
(Weekly Sample) Received: 12-11-84

<u>Analysis</u>	<u>North</u>	<u>Center</u>
pH (S.U.)	*	9.2
NO ₃ as N (mg/L)	FROZEN	4.1
Gross Alpha (pCi/L)	NO	4 ± 11
Gross Beta (pCi/L)	SAMPLE	3 ± 21

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~~T. Greengard, T452B HS&E~~
File

LAB NUMBER: M84-2952
DATE: 12-12-84
ACCOUNT NO: 331

APPROVED: J. A. Blair
J. A. Blair

SAMPLE DESCRIPTION

Solar Evaporation Pond 207B 1) North 1) Center
(Weekly Sample) Received: 12-4-84

<u>Analysis</u>	<u>North</u>	<u>Center</u>
pH (S.U.)	*	10.0
NO ₃ as N (mg/L)	*	4.0
Gross Alpha (pCi/L)	*	6 ± 17
Gross Beta (pCi/L)	*	3 ± 26
• Pond frozen		

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File

LAB NUMBER: M84-2888
DATE: 12-12-84
ACCOUNT NO: 331

APPROVED: *J.A. Blair*
J. A. Blair

SAMPLE DESCRIPTION

Solar Evaporation Pond 207B 1) North 1) Center
(Weekly Sample) Received: 11-27-84

<u>Analysis</u>	<u>North</u>	<u>Center</u>
pH (S.U.)	8.1	10.7
NO ₃ as N (mg/L)	579	2.9
Gross Alpha (pCi/L)	160 ± 63	1 ± 11
Gross Beta (pCi/L)	29 ± 29	5 ± 24

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File

LAB NUMBER: M84-2787
DATE: 11-29-84
ACCOUNT NO: 331

APPROVED:


J. A. Blair

SAMPLE DESCRIPTION

Solar Evaporation Pond 207B
(Weekly Sample)

1) North 1) Center
Received: 11-13-84

<u>Analysis</u>	<u>North</u>	<u>Center</u>
pH (S.U.)	8.3	10.8
NO ₃ as N (mg/L)	500	<1.0
Gross Alpha (pCi/L)	203 ± 94	20 ± 14
Gross Beta (pCi/L)	46 ± 43	-2 ± 28

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File

LAB NUMBER: M84-2724
DATE: 11-29-84
ACCOUNT NO: 331

APPROVED:

J.A. Blair
J. A. Blair

SAMPLE DESCRIPTION

Solar Evaporation Pond 207B
(Weekly Sample)

1) North 1) Center
Received: 11-6-84

<u>Analysis</u>	<u>North</u>	<u>Center</u>
pH (S.U.)	8.3	10.7
NO ₃ as N (mg/L)	570	2.7
Gross Alpha (pCi/L)	143 ± 55	11 ± 16
Gross Beta (pCi/L)	19 ± 37	-5 ± 23

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T. Greengard, T452B HS&E
File

LAB NUMBER: M84-2664
DATE: 11-7-84
ACCOUNT NO: 331

APPROVED:


J. A. Blair

SAMPLE DESCRIPTION

Solar Evaporation Pond 2078
(Weekly Sample)

1) North 1) Center
Received: 10-30-84

<u>Analysis</u>	<u>North</u>	<u>Center</u>
pH (S.U.)	8.2	10.5
NO ₃ as N (mg/L)	535	2.2
Gross Alpha (pCi/L)	165 ± 62	5 ± 10
Gross Beta (pCi/L)	53 ± 44	-5 ± 22

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File

LAB NUMBER: M84-2604
DATE: 11-7-84
ACCOUNT NO: 331

APPROVED:

J. A. Blair
J. A. Blair

SAMPLE DESCRIPTION

Solar Evaporation Pond 207B
(Weekly Sample)

1) North 1) Center
Received: 10-23-84

<u>Analysis</u>	<u>North</u>	<u>Center</u>
pH (S.U.)	8.2	10.6
NO ₃ as N (mg/L)	530	<1.0
Gross Alpha (pCi/L)	116 ± 42	11 ± 12
Gross Beta (pCi/L)	48 ± 47	3 ± 26

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T. Greengard, HS&E T452B
File

LAB NUMBER: M84-2608
DATE: 11-28-84
ACCOUNT NO: 331

APPROVED:


J. A. Blair

SAMPLE DESCRIPTION

Solar Evaporation Pond 207B 1) North 2) Center
Received: 10/23/84

ANALYSIS RESULTS

Elemental analysis results are reported on attached sheets.

LAB NO: M84-2608
DATE: NOVEMBER 21, 1984

ROCKWELL INTERNATIONAL
ENERGY SYSTEMS GROUP
ROCKY FLATS PLANT
881 GENERAL LABORATORY

ANALYSIS REPORT

TO: R.L.HENRY
CC: FILE

BLDG: T452B
DEPT: ENV.ANALYSIS

CHARGE: 331

SAMPLE DESCRIPTION:

SOLAR POND B (CENTER)

EMISSION SPECTROGRAPHIC RESULTS

ELEMENT	Mg/L	ELEMENT	Mg/L
Ag	.0016	Mo	.016
Al	2	Na *	67.0
As *	<.01	Nb	<.02
B	.24	Ni	.016
Ba *	<1.0	P	.2
Be *	<.05	Pb	.002
Bi	<.002	Rb	.041
Ca *	2.9	Sb	<.0041
Cd *	<.01	Se *	<.01
Ce	<.41	Si *	2.4
Co	<.002	Sn	<.0041
Cr *	<.05	Sr	.28
Cs	.041	Ta	<.0041
Cu	.016	Te	<.041
Fe	.2	Th	<.0041
Ge	<.002	Tl	.041
Hg *	<.002	Tl	<.002
K *	38.8	U	<.2
Li	.41	V	.0081
Mg *	3.9	W	<.2
Mn	.081	Zn	.041
		Zr	.0041

* ATOMIC ABSORPTION SPECTROPHOTOMETRIC RESULTS.
** NOT RUN

TOTAL SOLIDS: 486

ANALYSIS BY: R2D,DLP

PLATE NO: 2984

APPROVED BY R. C. Silver

LAB NO: M84-2608
DATE: NOVEMBER 21, 1984

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ENERGY SYSTEMS GROUP
ROCKY FLATS PLANT
881 GENERAL LABORATORY

ANALYSIS REPORT

.....

TO: R.L.HENRY
CC: FILE

BLDG: T452B
DEPT: ENV.ANALYSIS

CHARGE: 331

.....
SAMPLE DESCRIPTION:

SOLAR POND B (NORTH)

.....
EMISSION SPECTROGRAPHIC RESULTS

ELEMENT	Mg/L	ELEMENT	Mg/L
Ag	<.0035	Mo	.0069
Al	1	Na	* 370.0
As *	<.01	Nb	<.17
B	.31	Ni	<.035
Ba *	<1.0	P	<.17
Be *	<.05	Pb	.0035
Bi	<.017	Rb	<.35
Ca *	20.0	Sb	<.035
Cd *	<.01	Se *	.01
Ce	<3.5	Si *	5.6
Co	<.017	Sn	<.035
Cr *	<.05	Sr	3.5
Cs	<.35	Ta	<.035
Cu	<.017	Te	<.35
Fe	.28	Th	<.035
Ge	<.017	Tl	.069
Hg *	<.002	Tl	<.017
K *	82.0	U	<1.7
Li	3.5	V	<.035
Mg *	87.0	W	<1.7
Mn	<.035	Zn	<.17
		Zr	<.035

* ATOMIC ABSORPTION SPECTROPHOTOMETRIC RESULTS.

** NOT RUN

TOTAL SOLIDS: 3459

.....

ANALYSIS BY: R2D,DLP

PLATE NO: 2884

APPROVED BY ... R. A. Schaefer

ANALYTICAL REPORT

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GENERAL LABORATORY
BUILDING 881

DISTRIBUTION:

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C. T. Illsley, T452B HS&E
R. D. Gaskins, 374 Liq Wste Ops
T. Greengard, T452B HS&E
File

LAB NUMBER: M84-2479
DATE: 10/22/84
ACCOUNT NO: 331

APPROVED: 
J. A. Blair

SAMPLE DESCRIPTION

Solar Evaporation Pond 207B 1) North 1) Center
(Weekly Sample) Received: 10/9/84

<u>Analysis</u>	<u>North</u>	<u>Center</u>
pH (S.U.)	8.3	10.9
NO ₃ as N (mg/L)	570	< 1.0
Gross Alpha (pCi/L)	124 <u>±</u> 54	8 <u>±</u> 9
Gross Beta (pCi/L)	39 <u>±</u> 39	-3 <u>±</u> 24

ANALYTICAL REPORT

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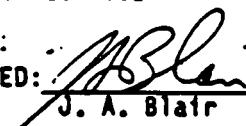
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X. D. Gaskins, 374 Liq Wste Ops
✓ T. Greengard, T452B HS&E
File

LAB NUMBER: M84-2425

DATE: 10/22/84

ACCOUNT NO: 331

APPROVED: 
J. A. Blair

SAMPLE DESCRIPTION

Solar Evaporation Pond 207B
(Weekly Sample)

1) North 1) Center
Received: 10/2/84

<u>Analysis</u>	<u>North</u>	<u>Center</u>
pH (S.U.)	8.3	10.9
NO ₃ as N (mg/L)	720	< 1.0
Gross Alpha (pCi/L)	97 ± 38	4 ± 15
Gross Beta (pCi/L)	44 ± 38	2 ± 26

ANALYTICAL REPORT

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~~T.~~ Greengard, T452B HS&E
File

LAB NUMBER: M84-2377
DATE: 10-05-84
ACCOUNT NO: 331

APPROVED: 
J. A. Blair

SAMPLE DESCRIPTION

Solar Evaporation Pond 207B 1) North 1) Center
(Weekly Sample) Received: 9-25-84

<u>Analysis</u>	<u>North</u>	<u>Center</u>
pH (S.U.)	8.4	11.1
NO ₃ as N (mg/L)	335	<1.0
Gross Alpha (pCi/L)	98 ± 45	8 ± 14
Gross Beta (pCi/L)	38 ± 45	8 ± 29

ANALYTICAL REPORT

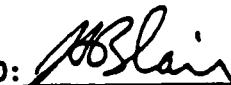
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R. D. Gaskins, 374 L1q Wste Ops
T. Greengard, T452B HS&E
File

LAB NUMBER: M84-2312
DATE: 10-05-84
ACCOUNT NO: 331

APPROVED: 
J. A. Blair

SAMPLE DESCRIPTION

Solar Evaporation Pond 207B
(Weekly Sample)

1) North 1) Center
Received: 9-18-84

<u>Analysis</u>	<u>North</u>	<u>Center</u>
pH (S.U.)	8.4	11.1
NO ₃ as N (mg/L)	560	2.6
Gross Alpha (pCi/L)	126 ± 56	15 ± 16
Gross Beta (pCi/L)	39 ± 50	-8 ± 27

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R. D. Gaskins, 374 Liq Wste Ops
✓T. Greengard, T452B HS&E
File

LAB NUMBER: M84-2247

DATE: 9-27-84

ACCOUNT NO: 331

APPROVED: *J. A. Blair*
J. A. Blair

SAMPLE DESCRIPTION

Solar Evaporation Pond 207B 1) North 1) Center
(Weekly Sample) Received: 9-11-84

<u>Analysis</u>	<u>North</u>	<u>Center</u>
pH (S.U.)	8.7	11.1
NO ₃ as N (mg/L)	852	<1.0
Gross Alpha (pCi/L)	157 ± 63	3 ± 13
Gross Beta (pCi/L)	30 ± 44	17 ± 30

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C. T. Illsley T452B
~~R. D. Gaskins~~ 374
~~T. Greengard~~ T452B
File

LAB NUMBER: M84-2173
DATE: 9-13-84
ACCOUNT NO: 331

APPROVED:


J. A. Blair

SAMPLE DESCRIPTION

Solar Evaporation Pond 207B 1) North 1) Center
(Weekly Sample) Received: 9/4/84

<u>Analysis</u>	<u>North</u>	<u>Center</u>
pH (S.U.)	8.9	10.7
NO ₃ as N (mg/L)	340	<1.0
Gross Alpha (pCi/L)	15 ± 79	30 ± 22
Gross Beta (pCi/L)	60 ± 45	13 ± 26

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DISTRIBUTION:

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C. T. Illsley T452B
R. D. Gaskins 374
✓T. Greengard T452B
File

LAB NUMBER: M84-2124
DATE: 9-13-84
ACCOUNT NO: 331

APPROVED: 
J. A. Blair

SAMPLE DESCRIPTION

Solar Evaporation Pond 207B 1) North 1) Center
(Weekly Sample) Received: 8/28/84

<u>Analysis</u>	<u>North</u>	<u>Center</u>
pH (S.U.)	9.0	10.6
NO ₃ as N (mg/L)	590	<1.0
Gross Alpha (pCi/L)	13 ± 50	4 ± 8
Gross Beta (pCi/L)	24 ± 43	8 ± 31

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BUILDING 881

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C. T. I11sley T452B
R. D. Gaskins 374
✓ T. Greengard T452B
✓ file

LAB NUMBER: M84-2043
DATE: 8/28/84
ACCOUNT NO: 331

APPROVED:


J. A. Blair

SAMPLE DESCRIPTION

Solar Evaporation Pond 207B 1) North 1) Center
(Weekly Sample) Received: 8/21/84

<u>Analysis</u>	<u>North</u>	<u>Center</u>
pH (S.U.)	9.0	10.2
NO ₃ as N (mg/L)	682	1.2
Gross Alpha (pCi/L)	87 ± 42	24 ± 20
Gross Beta (pCi/L)	61 ± 52	24 ± 33

ANALYTICAL REPORT

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BUILDING 881

DISTRIBUTION:

R. L. Henry T452B
C. T. Illsley T452B
R. D. Gaskins 374
M. D. Hoffman T452B
File

LAB NUMBER: M84-1992
DATE: 8/20/84
ACCOUNT NO: 331

APPROVED: *J. A. Palcic*
J. A. Palcic

SAMPLE DESCRIPTION

Solar Evaporation Pond 207B 1) North 1) Center
(Weekly Sample) Received: 8/14/84

<u>Analysis</u>	<u>North</u>	<u>Center</u>
pH (S.U.)	9.3	10.2
NO_3 as N (mg/L)	676	< 1.0
Gross Alpha (pCi/L)	141 \pm 66	18 \pm 25
Gross Beta (pCi/L)	16 \pm 32	-2 \pm 26

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ANALYTICAL REPORT

GENERAL LABORATORY
BUILDING 881

DISTRIBUTION:

R. L. Henry T4528
C. T. Illsley T4528
R. D. Gaskins 374
W. D. Hoffman T4528
File

LAB NUMBER: M84-1938

DATE: 8/20/84

ACCOUNT NO: 331

APPROVED:


S. A. Palcic

SAMPLE DESCRIPTION

Solar Evaporation Pond 207B
(Weekly Sample)

1) North 1) Center
Received: 8/7/84

<u>Analysis</u>	<u>North</u>	<u>Center</u>
pH (S.U.)	8.4	7.4
NO ₃ as N (mg/L)	647	< 1.0
Gross Alpha (pCi/L)	95 ± 46	1 ± 16
Gross Beta (pCi/L)	15 ± 38	20 ± 29

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ANALYTICAL REPORT

GENERAL LABORATORY
BUILDING 881

DISTRIBUTION:

R. L. Henry T452B
C. T. Illsley T452B
R. D. Gaskins 374
 N. D. Hoffman T452B
File

LAB NUMBER: M84-1815

DATE: 7/30/84

ACCOUNT NO: 331

APPROVED: 
J. A. Palcic

SAMPLE DESCRIPTION

Solar Evaporation Pond 207B 1) North 1) Center
(Weekly Sample) Received: 7/24/84

<u>Analysis</u>	<u>North</u>	<u>Center</u>
pH (S.U.)	9.0	10.9
NO ₃ as N (mg/L)	743	<1.0
Gross Alpha (pCi/L)	80 ± 32	15 ± 19
Gross Beta (pCi/L)	20 ± 40	17 ± 30

ANALYTICAL REPORT

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DISTRIBUTION:

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C. T. Illsley T452B
R. D. Gaskins 374
 N. D. Hoffman T452B
File

LAB NUMBER: M84-1751
DATE: 7/24/84
ACCOUNT NO: 331

APPROVED:

J. A. Palcic
J. A. Palcic

SAMPLE DESCRIPTION

Solar Evaporation Pond 207B 1) North 1) Center
(Weekly Sample) Received: 7/17/84

<u>Analysis</u>	<u>North</u>	<u>Center</u>
pH (S.U.)	8.5	10.4
NO ₃ as N (mg/L)	575	< 1.0
Gross Alpha (pCi/L)	143 ± 58	7 ± 19
Gross Beta (pCi/L)	61 ± 66	25 ± 32

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ANALYTICAL REPORT

GENERAL LABORATORY
BUILDING 881

DISTRIBUTION:

R. L. Henry T452B
C. T. Illsley T452B
R. D. Gaskins 374
M. D. Hoffman T452B
File

LAB NUMBER: M84-1650
DATE: 7/24/84
ACCOUNT NO: 331

APPROVED:


J. A. Palcic

SAMPLE DESCRIPTION

Solar Evaporation Pond 207B 1) North 1) Center
(Weekly Sample) Received: 7/3/84

<u>Analysis</u>	<u>North</u>	<u>Center</u>
pH (S.U.)	9.2	10.9
NO ₃ as N (mg/L)	633	3.7
Gross Alpha (pCi/L)	153 ± 70	6 ± 23
Gross Beta (pCi/L)	62 ± 55	20 ± 35

ANALYTICAL REPORT

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GENERAL LABORATORY
BUILDING 881

DISTRIBUTION:

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C. T. Illsley T452B
R. D. Gaskins 374
 M. D. Hoffman T452B
File

LAB NUMBER: M84-1593
DATE: 7/6/84
ACCOUNT NO: 331

APPROVED:

J. B. Palcic
J. A. Palcic

SAMPLE DESCRIPTION

Solar Evaporation Pond 207B 1) North 1) Center
(Weekly Sample) Received: 6/26/84

<u>Analysis</u>	<u>North</u>	<u>Center</u>
pH (S.U.)	9.6	8.9
NO ₃ as N (mg/L)	675	1.9
Gross Alpha (pCi/L)	124 ± 67	43 ± 25
Gross Beta (pCi/L)	67 ± 49	-6 ± 27

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ANALYTICAL REPORT

GENERAL LABORATORY
BUILDING 881

DISTRIBUTION:

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C. T. Irlsley T452B
R. D. Gaskins 374
N. D. Hoffman T452B
File

LAB NUMBER: M84-1523

DATE: 7/6/84

ACCOUNT NO: 331

APPROVED: *J. A. Palcic*
J. A. Palcic

SAMPLE DESCRIPTION

Solar Evaporation Pond 207B 1) North 1) Center
(Weekly Sample) Received: 6/19/84

<u>Analysis</u>	<u>North</u>	<u>Center</u>
pH (S.U.)	9.3	8.2
NO ₃ as N (mg/L)	674	1.9
Gross Alpha (pCi/L)	250 ± 132	7 ± 20
Gross Beta (pCi/L)	55 ± 51	11 ± 33

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ANALYTICAL REPORT

GENERAL LABORATORY
BUILDING 881

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R. D. Gaskins, 374 Liq Wste Ops
✓ T. Greengard, T452B HS&E
File

LAB NUMBER: MB5-1662
DATE: 7-19-85
ACCOUNT NO: 331

APPROVED: 
J. A. Blair

SAMPLE DESCRIPTION

Solar Evaporation Pond 207B 1) North 1) Center
(Weekly Sample) Received: 7-9-85

<u>Analysis</u>	<u>North</u>	<u>Center</u>
pH (S.U.)	8.4	10.4
NO ₃ ⁻ as N (mg/L)	662	<1.0
Gross Alpha (pCi/L)	112 ± 16	6 ± 9
Gross Beta (pCi/L)	52 ± 42	-3 ± 21

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ANALYTICAL REPORT

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R. D. Gaskins, 374 Liq Waste Ops
✓T. Greengard, T452B HS&E
File

LAB NUMBER: M85-1615

DATE: 7-23-85

ACCOUNT NO: 331

APPROVED: 
J. A. Blair

SAMPLE DESCRIPTION

Solar Evaporation Pond 207B 1) North 1) Center
(Weekly Sample) Received: 7-2-85

<u>Analysis</u>	<u>North</u>	<u>Center</u>
pH (S.U.)	8.7	11.0
NO ₃ ⁻ as N (mg/L)	634	<1.0
Gross Alpha (pCi/L)	118 ± 10	19 ± 10
Gross Beta (pCi/L)	88 ± 20	26 ± 36

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~~T. Greengard, T452B HS&E~~
File

LAB NUMBER: M85-1555
DATE: 7-11-85
ACCOUNT NO: 331

APPROVED: *J. A. Blair*
J. A. Blair

SAMPLE DESCRIPTION

Solar Evaporation Pond 207B 1) North 1) Center
(Weekly Sample) Received: 6-25-85

<u>Analysis</u>	<u>North</u>	<u>Center</u>
pH (S.U.)	8.6	10.7
NO_3^- as N (mg/L)	815	<1.0
Gross Alpha (pCi/L)	70 \pm 0	7 \pm 9
Gross Beta (pCi/L)	95 \pm 13	5 \pm 0

ANALYTICAL REPORT

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File

LAB NUMBER: M85-1499

DATE: 6-26-85

ACCOUNT NO: 331

APPROVED:

J. A. Blair

SAMPLE DESCRIPTION

Solar Evaporation Pond 207B
(Weekly Sample)

1) North 1) Center
Received: 6-18-85

<u>Analysis</u>	<u>North</u>	<u>Center</u>
pH (S.U.)	9.1	10.2
NO_3^- as N (mg/L)	658	<1.0
Gross Alpha (pCi/L)	231 ± 19	18 ± 0
Gross Beta (pCi/L)	44 ± 17	33 ± 15

ANALYTICAL REPORT

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T. Greengard, T452B HS&E
File

LAB NUMBER: M85-1433
DATE: 6-20-85
ACCOUNT NO: 331

APPROVED: *J. A. Blair*
J. A. Blair

SAMPLE DESCRIPTION

Solar Evaporation Pond 207B 1) North 1) Center
(Weekly Sample) Received: 6-11-85

<u>Analysis</u>	<u>North</u>	<u>Center</u>
pH (S.U.)	7.5	9.2
NO_3^- as N (mg/L)	732	<1.0
Gross Alpha (pCi/L)	175 \pm 16	27 \pm 7
Gross Beta (pCi/L)	39 \pm 0	45 \pm 55

ANALYTICAL REPORT

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R. D. Gaskins, 374 Liq Wate Ops
/ T. Greengard, T452B HS&E
File

LAB NUMBER: M85-1360
DATE: 6-20-85
ACCOUNT NO: 331

APPROVED: *J. A. Blair*
J. A. Blair

SAMPLE DESCRIPTION

Solar Evaporation Pond 207B 1) North 1) Center
(Weekly Sample) Received: 6-4-85

<u>Analysis</u>	<u>North</u>	<u>Center</u>
pH (S.U.)	9.1	9.4
NO_3^- as N (mg/L)	616	<1.0
Gross Alpha (pCi/L)	88 \pm 27	8 \pm 9
Gross Beta (pCi/L)	50 \pm 24	49 \pm 9

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R. D. Gaskins, 374 Liq Wate Ops
T. Greengard, T452B HS&E
File

LAB NUMBER: M85-1292

DATE: 6-7-85

ACCOUNT NO: 331

APPROVED:

J. A. Blair
J. A. Blair

SAMPLE DESCRIPTION

Solar Evaporation Pond 207B
(Weekly Sample)

1) North 1) Center
Received: 5-28-85

<u>Analysis</u>	<u>North</u>	<u>Center</u>
pH (S.U.)	9.3	10.6
NO ₃ ⁻ as N (mg/L)	660	<1.0
Gross Alpha (pCi/L)	29 ± 14	19 ± 18
Gross Beta (pCi/L)	118 ± 34	20 ± 44

ANALYTICAL REPORT

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R. D. Gaskins, 374 Liq Wate Ops
✓T. Greengard, T452B HS&E
File

LAB NUMBER: M85-1233

DATE: 6-7-85

ACCOUNT NO: 331

APPROVED:

J. A. Blair

SAMPLE DESCRIPTION

Solar Evaporation Pond 207B 1) North 1) Center
(Weekly Sample) Received: 5-21-85

<u>Analysis</u>	<u>North</u>	<u>Center</u>
pH (S.U.)	9.4	10.9
NO ₃ ⁻ as N (mg/L)	632	<1.0
Gross Alpha (pCi/L)	165 ± 9	32 ± 14
Gross Beta (pCi/l)	80 ± 0	12 ± 8

ANALYTICAL REPORT

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File

LAB NUMBER: M85-1160
DATE: 5-22-85
ACCOUNT NO: 331

APPROVED: J. A. Blair
J. A. Blair

SAMPLE DESCRIPTION

Solar Evaporation Pond 207B 1) North 1) Center
(Weekly Sample) Received: 5-14-85

<u>Analysis</u>	<u>North</u>	<u>Center</u>
pH (S.U.)	8.6	11.0
NO ₃ ⁻ as N (mg/L)	662	<1.0
Gross Alpha (pCi/L)	161 \pm 15	41 \pm 2
Gross Beta (pCi/L)	43 \pm 24	-9 \pm 4

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File

LAB NUMBER: M85-1082
DATE: 5-17-85
ACCOUNT NO: 331

APPROVED: J. A. Blair
J. A. Blair

SAMPLE DESCRIPTION

Solar Evaporation Pond 207B 1) North 1) Center
(Weekly Sample) Received: 5-7-85

<u>Analysis</u>	<u>North</u>	<u>Center</u>
pH (S.U.)	9.2	11.0
NO_3^- as N (mg/L)	557	<1.0
Gross Alpha (pCi/L)	195 \pm 19	7 \pm 14
Gross Beta (pCi/L)	37 \pm 7	9 \pm 3

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File

LAB NUMBER: M85-1003
DATE: 5-16-85
ACCOUNT NO: 331

APPROVED: J. A. Blair
J. A. Blair

SAMPLE DESCRIPTION

Solar Evaporation Pond 207B 1) North 1) Center
(Weekly Sample) Received: 4-30-85

<u>Analysis</u>	<u>North</u>	<u>Center</u>
pH (S.U.)	9.0	10.7
NO_3^- as N (mg/L)	656	1.8
Gross Alpha (pCi/L)	129 ± 10	29 ± 22
Gross Beta (pCi/L)	30 ± 28	-5 ± 3

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File

LAB NUMBER: M85-0947

DATE: 5-3-85

ACCOUNT NO: 331

APPROVED: *J. A. Blair*
J. A. Blair

SAMPLE DESCRIPTION

Solar Evaporation Pond 207B 1) North 1) Center
(Weekly Sample) Received: 4-23-85

<u>Analysis</u>	<u>North</u>	<u>Center</u>
pH (S.U.)	9.2	10.8
NO ₃ as N (mg/L)	651	2.4
Gross Alpha (pCi/L)	149 \pm 23	27 \pm 4
Gross Beta (pCi/L)	47 \pm 33	31 \pm 0

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T. Greengard, HS&E T452B
File

LAB NUMBER: M85-0949
DATE: 5-24-85
ACCOUNT NO: 331

APPROVED: 
J. A. Blair

SAMPLE DESCRIPTION

Solar Evaporation Pond 207B 1) North 1) Center
(Quarterly Sample) Received: 4-23-85

Elemental analysis results are reported on attached sheets.

2
LAB NO: M85-0949
DATE: MAY 23, 1985

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ENERGY SYSTEMS GROUP
ROCKY FLATS PLANT
881 GENERAL LABORATORY

ANALYSIS REPORT

TO: C.T. ILLSLEY
CC: FILE

BLDG: T 452B
DEPT: ENV. ANALYSIS

CHARGE: 331

SAMPLE DESCRIPTION:

SOLAR POND (NORTH)

EMISSION SPECTROGRAPHIC RESULTS

ELEMENT	Mg/L	ELEMENT	Mg/L
Ag	.882	Mo	<.0041
Al	.16	Na	620.0
As *	<.01	Nb	<.2
B	.29	Ni	<.041
Ba *	<1.0	P	<.2
Be *	<.05	Pb	<.0041
Bi	<.02	Rb	<.41
Ca *	290	Sb	<.041
Cd *	<.01	Se *	.02
Ce	<4.1	Si *	2.1
Co	<.02	Sn	<.041
Cr *	<.05	Sr	1.2
Cs	<.41	Ta	<.041
Cu	<.02	Te	<.41
Fe	.29	Th	<.041
Ge	<.02	Tl	<.02
Hg *	<.002	U	<2
K *	120.0	V	<.041
Li	.37	W	<2
Mg *	120.0	Zn	<.2
Mn	<.0041	Zr	<.041

* ATOMIC ABSORPTION SPECTROPHOTOMETRIC RESULTS.
** NOT RUN

TOTAL SOLIDS: 4084

ANALYSIS BY: R2D,DLP

PLATE NO: 2994

APPROVED BY ...

LAB NO: M85-0949
DATE: MAY 23, 1985

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ROCKY FLATS PLANT
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ANALYSIS REPORT

TO: C.T. ILLSLEY
CC: FILE

BLDG: T 4528
DEPT: ENV. ANALYSIS

CHARGE: 331

SAMPLE DESCRIPTION:

SOLAR POND (CENTER)

EMISSION SPECTROGRAPHIC RESULTS

ELEMENT	Mg/L	ELEMENT	Mg/L
Ag	.015	Mo	.037
Al	.15	Na	250.0
As	<.01	Nb	<.037
B	.67	Ni	.015
Ba	<1.0	P	.074
Be	<.05	Pb	<.0007
Bi	<.0037	Rb	<.074
Ca	45.0	Sb	<.0074
Cd	<.01	Se	<.01
Ce	.74	Si	5.5
Co	<.0037	Sn	<.0074
Cr	<.05	Sr	.52
Cs	<.074	Ta	<.0074
Cu	.037	Te	<.074
Fe	.074	Th	<.0074
Ge	<.0037	Tl	.022
Hg	<.002	Tl	<.0037
K	36.0	U	<.37
Li	.052	V	<.0074
Mg	13.0	W	<.37
Mn	.022	Zn	<.037
		Zr	<.0074

* ATOMIC ABSORPTION SPECTROPHOTOMETRIC RESULTS.
** NOT RUN

TOTAL SOLIDS: 744

ANALYSIS BY: R2D,DLP

PLATE NO: 2994

APPROVED BY

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T. Greengard, T452B HS&E
File

LAB NUMBER: M85-0892

DATE: 4-25-85

ACCOUNT NO: 331

APPROVED: *JAB*
J. A. Blair

SAMPLE DESCRIPTION

Solar Evaporation Pond 207B 1) North 1) Center
(Weekly Sample) Received: 4-16-85

<u>Analysis</u>	<u>North</u>	<u>Center</u>
pH (S.U.)	9.3	10.1
NO ₃ as N (mg/L)	615	3.2
Gross Alpha (pCi/L)	154 ± 4	14 ± 2
Gross Beta (pCi/L)	20 ± 6	7 ± 14

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T. Greengard, T452B HS&E
File

LAB NUMBER: M85-0824
DATE: 4-19-85
ACCOUNT NO: 331

APPROVED: J. A. Blair
J. A. Blair

SAMPLE DESCRIPTION

Solar Evaporation Pond 207B 1) North 1) Center
(Weekly Sample) Received: 4-9-85

<u>Analysis</u>	<u>North</u>	<u>Center</u>
pH (S.U.)	9.2	8.9
NO ₃ as N (mg/L)	630	4.3
Gross Alpha (pCi/L)	108 <u>±</u> 3	14 <u>±</u> 4
Gross Beta (pCi/L)	64 <u>±</u> 13	10 <u>±</u> 10

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File

LAB NUMBER: M85-0766
DATE: 4-15-85
ACCOUNT NO: 331

APPROVED: 
J. A. Blair

SAMPLE DESCRIPTION

Solar Evaporation Pond 207B 1) North 1) Center
(Weekly Sample) Received: 4-2-85

<u>Analysis</u>	<u>North</u>	<u>Center</u>
pH (S.U.)	9.1	8.5
NO ₃ as N (mg/L)	540	5.3
Gross Alpha (pCi/L)	33 ± 0	18 ± 2
Gross Beta (pCi/L)	86 ± 0	20 ± 28

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T. Greengard, T452B HS&E
File

LAB NUMBER: M85-0642
DATE: 3-28-85
ACCOUNT NO: 331

APPROVED:

J.A. Blair
J. A. Blair

SAMPLE DESCRIPTION

Solar Evaporation Pond 207B 1) North 1) Center
(Weekly Sample) Received: 3-14-85

<u>Analysis</u>	<u>North</u>	<u>Center</u>
pH (S.U.)	9.0	10.8
NO ₃ as N (mg/L)	585	2.9
Gross Alpha (pCi/L)	230 ± 56	16 ± 3
Gross Beta (pCi/L)	163 ± 25	25 ± 22

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T. Greengard, T452B HS&E
File

LAB NUMBER: M85-0573

DATE: 3-26-85

ACCOUNT NO: 331

APPROVED:

J. A. Blair
J. A. Blair

SAMPLE DESCRIPTION

Solar Evaporation Pond 207B 1) North 1) Center
(Weekly Sample) Received: 3-12-85

<u>Analysis</u>	<u>North</u>	<u>Center</u>
pH (S.U.)	8.8	10.7
NO ₃ as N (mg/L)	390	2.2
Gross Alpha (pCi/L)	(1.3 ± 0.4) × 10 ²	19 ± 13
Gross Beta (pCi/L)	(1.6 ± 0.1) × 10 ²	31 ± 16

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DISTRIBUTION:

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R. D. Gaskins 374
M. D. Hoffman T452B
File

LAB NUMBER: M84-1467

DATE: 7/24/84

ACCOUNT NO: 331

APPROVED: *J. A. Palcic*
J. A. Palcic

SAMPLE DESCRIPTION

Solar Evaporation Pond 2078 1) North 1) Center
(Weekly Sample) Received: 6/12/84

<u>Analysis</u>	<u>North</u>	<u>Center</u>
pH (S.U.)	8.9	7.7
NO ₃ as N (mg/L)	667	1.0
Gross Alpha (pCi/L)	84 ± 49	10 ± 16
Gross Beta (pCi/L)	35 ± 39	23 ± 30

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✓T. Greengard, T452B HS&E
File

LAB NUMBER: MB5-0573

DATE: 3-26-85

ACCOUNT NO: 331

APPROVED: 
J. A. Blair

SAMPLE DESCRIPTION

Solar Evaporation Pond 207B 1) North 1) Center
(Weekly Sample) Received: 3-12-85

<u>Analysis</u>	<u>North</u>	<u>Center</u>
pH (S.U.)	8.8	10.7
NO_3 as N (mg/L)	390	2.2
Gross Alpha (pCi/L)	$(1.3 \pm 0.4) \times 10^2$	19 ± 13
Gross Beta (pCi/L)	$(1.6 \pm 0.1) \times 10^2$	31 ± 16

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T. Greengard, T452B HS&E
File

LAB NUMBER: M84-2541
DATE: 10/22/84
ACCOUNT NO: 331

APPROVED: 
J. A. Blair

SAMPLE DESCRIPTION

Solar Evaporation Pond 207B 1) North 1) Center
(Weekly Sample) Received: 10/17/84

<u>Analysis</u>	<u>North</u>	<u>Center</u>
pH (S.U.)	7.8	10.5
NO ₃ as N (mg/L)	600	1.6
Gross Alpha (pCi/L)	123 ± 50	2 ± 11
Gross Beta (pCi/L)	39 ± 35	3 ± 23

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R. D. Gaskins 374
V/W. D. Hoffman T452B
File

LAB NUMBER: MB4-1410
DATE: 6/14/84
ACCOUNT NO: 331

APPROVED:

J. A. Palcic
J. A. Palcic

SAMPLE DESCRIPTION

Solar Evaporation Pond 207B 1) North 1) Center
(Weekly Sample) Received: 6/5/84

<u>Analysis</u>	<u>North</u>	<u>Center</u>
pH (S.U.)	8.6	8.2
NO ₃ as N (mg/L)	600	3.1
Gross Alpha (pCi/L)	142 ± 63	8 ± 15
Gross Beta (pCi/L)	58 ± 46	29 ± 31

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R. L. Henry T-452B
R. D. Gaskins 374
File

LAB NUMBER: M84-1417
DATE: 8/15/84
ACCOUNT NO: 331

APPROVED:

J. A. Patric
J. A. Patric

SAMPLE DESCRIPTION

207B Solar Pond - Quarterly Sample Received: 6/5/84

<u>Analysis</u>	<u>Result</u>
pH (S.U.)	9.6
NO ₃ as N (mg/L)	2650
Total Dissolved Solids (mg/L)	2109
Gross Alpha (pCi/L)	2886 ± 2423
Gross Beta (pCi/L)	722 ± 250
Pu - 239 (pCi/L)	(3.0 ± 1.9) × 10 ¹
A _m - 241 (pCi/L)	(9.7 ± 3.4) × 10 ¹
U (pCi/L)	(3.3 ± 0.2) × 10 ³
³ H (pCi/L)	(6.4 ± 0.6) × 10 ³

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R. D. Gaskins 374
M. D. Hoffman T452B
File

LAB NUMBER: MB4-1347
DATE: 6/14/84
ACCOUNT NO: 331

APPROVED: *J. A. Palcic*
J. A. Palcic

SAMPLE DESCRIPTION

Solar Evaporation Pond 207B 1) North 1) Center
(Weekly Sample) Received: 5/29/84

<u>Analysis</u>	<u>North</u>	<u>Center</u>
pH (S.U.)	8.7	9.6
NO ₃ as N (mg/L)	600	1.7
Gross Alpha (pCi/L)	145 ± 64	20 ± 19
Gross Beta (pCi/L)	37 ± 37	8 ± 25

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R. D. Gaskins 374
N. D. Hoffman T452B
~~file~~

LAB NUMBER: MB4-1298
DATE: 6/7/84
ACCOUNT NO: 331

APPROVED: *J. A. Palcic*
J. A. Palcic

SAMPLE DESCRIPTION

Solar Evaporation Pond 207B 1) North 1) Center
(Weekly Sample) Received: 5/22/84

<u>Analysis</u>	<u>North</u>	<u>Center</u>
pH (S.U.)	8.7	10.8
NO ₃ as N (mg/L)	628	5.8
Gross Alpha (pCi/L)	134 ± 59	6 ± 14
Gross Beta (pCi/L)	47 ± 56	17 ± 33

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R. D. Gaskins 374
W. D. Hoffman T452B
✓ File

LAB NUMBER: M84-1221
DATE: 6/7/84
ACCOUNT NO: 331

APPROVED: 
J. A. Palcic

SAMPLE DESCRIPTION

Solar Evaporation Pond 207B 1) North 1) Center
(Weekly Sample) Received: 5/15/84

<u>Analysis</u>	<u>North</u>	<u>Center</u>
pH (S.U.)	8.5	10.9
NO ₃ as N (mg/L)	605	6.1
Gross Alpha (pCi/L)	132 ± 59	12 ± 13
Gross Beta (pCi/L)	51 ± 41	-11 ± 26

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R. D. Gaskins 374
W. D. Hoffman T452B
✓File

LAB NUMBER: M84-1158
DATE: 6/7/84
ACCOUNT NO: 331

APPROVED:


J. A. Palcic

SAMPLE DESCRIPTION

Solar Evaporation Pond 207B 1) North 1) Center
(Weekly Sample) Received: 5/8/84

<u>Analysis</u>	<u>North</u>	<u>Center</u>
pH (S.U.)	8.2	10.3
NO ₃ as N (mg/L)	628	3.2
Gross Alpha (pCi/L)	121 ± 53	18 ± 19
Gross Beta (pCi/L)	51 ± 31	5 ± 25

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DISTRIBUTION:

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R. D. Gaskins 374
N. D. Hoffman T452B
File

LAB NUMBER: MB4-1091
DATE: 5/18/84
ACCOUNT NO: 331

APPROVED:

J. A. Palcic
J. A. Palcic

SAMPLE DESCRIPTION

Solar Evaporation Pond 207B
(Weekly Sample)

1) North 1) Center
Received: 5/1/84

<u>Analysis</u>	<u>North</u>	<u>Center</u>
pH (S.U.)	8.5	11.2
NO ₃ as N (mg/L)	561	4.8
Gross Alpha (pCi/L)	105 ± 48	-3 ± 12
Gross Beta (pCi/L)	43 ± 32	0 ± 24

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- .. L. Henry T452B
- .. T. Illsley T452B
- .. D. Gaskins 374
- .. D. Hoffman T452B
- ..

LAB NUMBER: MB4-1012
DATE: 5/9/84
ACCOUNT NO: 331

APPROVED: *J. A. Palcic*
J. A. Palcic

SAMPLE DESCRIPTION

Solar Evaporation Pond 207B
(Weekly Sample)

1) North 1) Center
Received: 4/24/84

<u>Analysis</u>	<u>North</u>	<u>Center</u>
pH (S.U.)	8.3	11.0
c _N as N (mg/L)	645	4.8
radon Alpha (pCi/L)	162 ± 70	18 ± 14
radon Beta (pCi/L)	49 ± 33	23 ± 26

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- 1. T. Illsley T452B
- 1. D. Gaskins 374
- 1. D. Hoffman T452B
- 1. Le

LAB NUMBER: M84-963
DATE: 5/9/84
ACCOUNT NO: 331

APPROVED:

J.A. Palcic
J. A. Palcic

SAMPLE DESCRIPTION

Solar Evaporation Pond 207B
(Weekly Sample)

1) North 1) Center
Received: 4/17/84

<u>Analysis</u>	<u>North</u>	<u>Center</u>
H (S.U.)	8.4	11.1
$\text{H}_2\text{ as H}$ (mg/L)	563	5.5
Ross Alpha (pCi/L)	98 \pm 48	6 \pm 17
Ross Beta (pCi/L)	71 \pm 41	21 \pm 25

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R. D. ~~W~~askins 374
File

LAB NUMBER: MB4-902
DATE: 4-16-84
ACCOUNT NO: 331

APPROVED:


J. A. Palcic

SAMPLE DESCRIPTION

Solar Evaporation Pond 207B
Samples: 1) North 2) Center
Received: 4-10-84

ANALYSIS RESULTS

<u>Analysis</u>	<u>North</u>	<u>Center</u>
Alpha (pCi/L)	209 \pm 91	2 \pm 16
Beta (pCi/L)	53 \pm 42	12 \pm 27
pH (S.U.)	8.5	11.1
EC \pm N (mg/L)	537	3.9

ROCKWELL INTERNATIONAL
ENERGY SYSTEMS GROUP
P.O. BOX 464
GOLDEN, COLORADO 80401

ANALYTICAL REPORT

GENERAL LABORATORY
BUILDING 881

DISTRIBUTION:

R. L. Henry T452B
C. T. Illaley T452B
R. D. Gaskins 374
✓N. D. Hoffman T452B
File

LAB NUMBER: MB4-1410

DATE: 6/14/84

ACCOUNT NO: 331

APPROVED: *J. A. Palcic*
J. A. Palcic

SAMPLE DESCRIPTION

Solar Evaporation Pond 207B
(Weekly Sample)

1) North 1) Center
Received: 6/5/84

<u>Analysis</u>	<u>North</u>	<u>Center</u>
pH (S.U.)	8.6	8.2
NO ₃ as N (mg/L)	600	3.1
Gross Alpha (pCi/L)	142 ± 63	8 ± 15
Gross Beta (pCi/L)	58 ± 46	29 ± 31

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GOLDEN, COLORADO 80401

ANALYTICAL REPORT

GENERAL LABORATORY
BUILDING 881

DISTRIBUTION:

C. T. Illsley T-452B
N. D. Hoffman T-452B
R. L. Henry T-452B
R. D. Gaskins 374
File

LAB NUMBER: M84-1417

DATE: 8/15/84

ACCOUNT NO: 331

APPROVED: *J. A. Palcic*
J. A. Palcic

SAMPLE DESCRIPTION

207B Solar Pond - Quarterly Sample Received: 6/5/84

<u>Analysis</u>	<u>Result</u>
pH (S.U.)	9.6
NO ₃ as N (mg/L)	2650
Total Dissolved Solids (mg/L)	2109
Gross Alpha (pCi/L)	2886 \pm 2423
Gross Beta (pCi/L)	722 \pm 250
Pu - 239 (pCi/L)	(3.0 \pm 1.9) \times 10 ¹
Am - 241 (pCi/L)	(9.7 \pm 3.4) \times 10 ¹
U_ (pCi/L)	(3.3 \pm 0.2) \times 10 ³
³ H (pCi/L)	(6.4 \pm 0.6) \times 10 ³

ANALYTICAL REPORT

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GENERAL LABORATORY
BUILDING 881

DISTRIBUTION:

R. L. Henry T452B
C. T. Illsley T452B
R. D. Gaskins 374
W. D. Hoffman T452B
File

LAB NUMBER: MB4-1347

DATE: 6/14/84

ACCOUNT NO: 331

APPROVED:

J. A. Palcic
J. A. Palcic

SAMPLE DESCRIPTION

Solar Evaporation Pond 207B
(Weekly Sample)

1) North 1) Center
Received: 5/29/84

<u>Analysis</u>	<u>North</u>	<u>Center</u>
pH (S.U.)	8.7	9.6
NO ₃ as N (mg/L)	600	1.7
Gross Alpha (pCi/L)	145 ± 64	20 ± 19
Gross Beta (pCi/L)	37 ± 37	8 ± 25

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ANALYTICAL REPORT

GENERAL LABORATORY
BUILDING 881

DISTRIBUTION:

R. L. Henry T452B
C. T. Illsley T452B
R. D. Gaskins 374
N. D. Hoffman T452B
~~file~~

LAB NUMBER: MB4-1298
DATE: 6/7/84
ACCOUNT NO: 331

APPROVED:

J. A. Falcic
J. A. Falcic

SAMPLE DESCRIPTION

Solar Evaporation Pond 207B 1) North 1) Center
(Weekly Sample) Received: 5/22/84

<u>Analysis</u>	<u>North</u>	<u>Center</u>
pH (S.U.)	8.7	10.8
NO ₃ as N (mg/L)	628	5.8
Gross Alpha (pCi/L)	134 ± 59	6 ± 14
Gross Beta (pCi/L)	47 ± 56	17 ± 33

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ANALYTICAL REPORT

GENERAL LABORATORY
BUILDING 881

DISTRIBUTION:

R. L. Henry T452B
C. T. Illsley T452B
R. D. Gaskins 374
N. D. Hoffman T452B

File

LAB NUMBER: M84-1221
DATE: 6/7/84
ACCOUNT NO: 331

APPROVED:

J. A. Palcic
J. A. Palcic

SAMPLE DESCRIPTION

Solar Evaporation Pond 207B
(Weekly Sample)

1) North 1) Center
Received: 5/15/84

<u>Analysis</u>	<u>North</u>	<u>Center</u>
pH (S.U.)	8.5	10.9
NO ₃ as N (mg/L)	605	6.1
Gross Alpha (pCi/L)	132 ± 59	12 ± 13
Gross Beta (pCi/L)	51 ± 41	-11 ± 26

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ANALYTICAL REPORT

GENERAL LABORATORY
BUILDING 881

DISTRIBUTION:

R. L. Henry T452B
C. T. Illsley T452B
R. D. Gaskins 374
N. D. Hoffman T452B
Pile

LAB NUMBER: MB4-1158
DATE: 6/7/84
ACCOUNT NO: 331

APPROVED: 
J. A. Palcic

SAMPLE DESCRIPTION

Solar Evaporation Pond 207B 1) North 1) Center
(Weekly Sample) Received: 5/8/84

<u>Analysis</u>	<u>North</u>	<u>Center</u>
pH (S.U.)	8.2	10.3
NO ₃ as N (mg/L)	628	3.2
Gross Alpha (pCi/L)	121 ± 53	18 ± 19
Gross Beta (pCi/L)	51 ± 31	5 ± 25

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ANALYTICAL REPORT

GENERAL LABORATORY
BUILDING 881

DISTRIBUTION:

R. L. Henry T452B
C. T. Illsley T452B
R. D. Gaskins 374
N. D. Hoffman T452B
File

LAB NUMBER: M84-1091
DATE: 5/18/84
ACCOUNT NO: 331

APPROVED:

J. A. Palcic
J. A. Palcic

SAMPLE DESCRIPTION

Solar Evaporation Pond 207B 1) North 1) Center
(Weekly Sample) Received: 5/1/84

<u>Analysis</u>	<u>North</u>	<u>Center</u>
pH (S.U.)	8.5	11.2
NO ₃ as N (mg/L)	561	4.8
Gross Alpha (pCi/L)	105 ± 48	-3 ± 12
Gross Beta (pCi/L)	43 ± 32	0 ± 24

ANALYTICAL REPORT

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GENERAL LABORATORY
BUILDING 881

DISTRIBUTION:

- ✓ L. Henry T452B
- ✓ T. Illsley T452B
- ✓ D. Gaskins 374
- ✓ D. Hoffman T452B
- ✓ e

LAB NUMBER: M84-1012
DATE: 5/9/84
ACCOUNT NO: 331

APPROVED:

J. A. Palcic
J. A. Palcic

SAMPLE DESCRIPTION

Solar Evaporation Pond 207B 1) North 1) Center
(Weekly Sample) Received: 4/24/84

<u>Analysis</u>	<u>North</u>	<u>Center</u>
pH (S.U.)	8.3	11.0
N, as N (mg/L)	645	4.8
Radiation Alpha (pCi/L)	162 \pm 70	18 \pm 14
Radiation Beta (pCi/L)	49 \pm 33	23 \pm 26

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ANALYTICAL REPORT

GENERAL LABORATORY
BUILDING 881

DISTRIBUTION:

- ✓ L. Henry T452B
- ✓ T. Illsley T452B
- ✓ D. Gaskins 374
- ✓ D. Hoffman T452B
- ✓ Le

LAB NUMBER: MB4-963
DATE: 5/9/84
ACCOUNT NO: 331

APPROVED:

J. A. Palcic
J. A. Palcic

SAMPLE DESCRIPTION

Solar Evaporation Pond 207B
(Weekly Sample)

1) North 1) Center
Received: 4/17/84

<u>Analysis</u>	<u>North</u>	<u>Center</u>
H (S.U.)	8.4	11.1
N ₂ as N (mg/L)	563	5.5
Ross Alpha (pCi/L)	98 ± 48	6 ± 17
Ross Beta (pCi/L)	71 ± 41	21 ± 25

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ANALYTICAL REPORT

GENERAL LABORATORY
BUILDING 881

DISTRIBUTION:

R. L. Henry T452B
C. T. Illsley T452B
R. D. Gaskins 374
File

LAB NUMBER: MB4-902
DATE: 4-16-84
ACCOUNT NO: 331

APPROVED:


J. A. Palcic

SAMPLE DESCRIPTION

Solar Evaporation Pond 207B
Samples: 1) North 2) Center
Received: 4-10-84

ANALYSIS RESULTS

<u>Analysis</u>	<u>North</u>	<u>Center</u>
Gross Alpha (pCi/L)	209 <u>±</u> 91	2 <u>±</u> 16
Gross Beta (pCi/L)	53 <u>±</u> 42	12 <u>±</u> 27
pH (S.U.)	8.5	11.1
NO ₃ as N (mg/L)	537	3.9

Rockwell International

Energy Systems Group
Energy Plus Plant
P.O. Box 484
Denver, Colorado 80241

ANALYTICAL REPORT

	Account No.	331	Date	4-10-84	Lab. No.	M84-825
Henry	T452B		Reported by			
Illsley	T452B		Approved	J. A. Palcic		
Gaskins	374					
Hoffman	T452B					

Description

Solar Evaporation Pond 207B - 1) North 2) Center

Received: 4-3-84

Results

<u>Analysis</u>	<u>North</u>	<u>Center</u>
pH (S.U.)	8.2	10.2
NO _x as N (mg/L)	531	4.7
Gross Alpha (pCi/L)	283 ± 133	18 ± 21
Gross Beta (pCi/L)	72 ± 47	21 ± 29

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ANALYTICAL REPORT

Energy Systems Group
Askey Park Plaza
P.O. Box 484
Golden, Colorado 80401

	Account No.	Date	Lab. No.
I. Henry	T452B	331	4-3-84
T. Illsley	T452B		
D. Gaskins	374		
D. Hoffman	T452B		

Reported by

Approved

J. Palcic
J. A. Palcic

Description

Solar Evaporation Pond 207B - Samples North & Center

Received: 3-27-84

Results

<u>Analysis</u>	<u>North</u>	<u>Center</u>
Gross Beta (pCi/L)	53 + 40	3 + 23
Gross Alpha (pCi/L)	139 + 63	12 + 15
pH	8.1	10.5
NO ₃ as N (mg/L)	510	7.1

Rockwell International

Energy Systems Group
Rocky Flats Plant
P.O. Box 204
Golden, Colorado 80401

ANALYTICAL REPORT

Account No.

331

Date

3-27-84

Lab. No.

M84-688

R. L. Henry T452B
C. T. Illsley T452B
R. D. Gaskins 374
N. D. Hoffman T452B
file

Reported by

Approved


J. A. Palcic

Sample Description

Solar Evaporation Pond 207B - Samples North and Center

Received 3-20-84

Analysis Results

	<u>North</u>	<u>Center</u>
Gross Alpha (pCi/L)	144 \pm 74	6 \pm 21
Gross Beta (pCi/L)	45 \pm 36	3 \pm 24
pH	8.6	11.3
NO _x as N (mg/L)	570	9.6

Rockwell International

Energy Division Group
West Point Plant
1000 West 44th
Denver, Colorado 80201

ANALYTICAL REPORT

	Account No.	331	Date	3-27-84	Lab. No.	M84-635
Henry	T452B					
Illsley	T452B					
Gaskins	374					
Hoffman	T452B					

Reported by

Approved

J. A. Palcic

Description

Solar Evaporation Pond 207B - Samples North and Center

Received 3-13-84

Results

	<u>North</u>	<u>Center</u>
as Alpha (pCi/L)	151 \pm 81	2 \pm 16
as Beta (pCi/L)	37 \pm 33	13 \pm 22
	8.0	9.9
as N (mg/L)	1367	6.7

Rockwell International

ANALYTICAL REPORT

Surge Systems Group
Surge Pond Plant
12 Elm Ave.
Golden, Colorado 80401

L. Henry - T452B Account No. 331
T. Illsley - T452B
D. Gaskins - 374
D. Hoffman - T452B

Date 3-23-84

Lab. No. M84-573

Reported by

Approved

Palcic
J. A. Palcic

Description
7B North and Center Solar Ponds.
Received: 3-6-84

Results

	<u>207B North</u>	<u>201B Center</u>
TSS Alpha (pC1/L)	80 ± 42	3 ± 15
TSS Beta (pC1/L)	51 ± 40	12 ± 30
	8.2	10.9
N as N (mg/L)	569	8.6

Rockwell International**ANALYTICAL REPORT**

Energy Systems Group
Rocky Flats Plant
P.O. Box 264
Golden, Colorado 80401

11. L. Henry - T452B Account No. 331 Date 3-23-84 Lab. No. M84-514

L. T. Illsley - T452B
L. D. Gaskins - 374
L. D. Hoffman - T452B

Reported by

Approved

J. A. Palcic
J. A. Palcic

Description

207B North Solar Pond. Received 2-28-84

Results

<u>Analysis</u>	<u>Result</u>
Gross Alpha (pCi/L)	76 ± 33
Gross Beta (pCi/L)	66 ± 41
pH	8.3
NO ₃ as N (mg/L)	420



Rockwell International

Energy Systems Group
Rocky Flats Plant
P.O. Box 444
Golden, Colorado 80401

ANALYTICAL REPORT

To	R.L. Henry 452 C.T. Illsley 452 R.D. Gaskins 374 N.D. Hoffman 452 File	Account No.	331	Date	2/29/84	Lab. No.	M84-451
				Reported by			
				Approved	 J.A. Palcic		

Sample Description

SOLAR EVAP. POND 207B CENTER & NORTH

Received: 2/21/84

Analysis Results

ANALYSIS

RESULTS

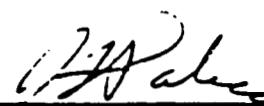
	North	Center
Gross Alpha (pCi/L)	70±31	6±15
Gross Beta (pCi/L)	34±32	9±22
pH	8.4	10.6
NO ₃ as N	550	8.2



Rockwell International

Energy Systems Group
Rocky Flats Plant
P.O. Box 664
Golden, Colorado 80401

ANALYTICAL REPO

To	Account No.	Date	Lab. No.
R.L. Henry 452 C.T. Illsley 452 R.D. Gaskins 374 N.D. Hoffman 452 File	331	2/27/84	M84-395
Reported by			
Approved			
 <u>J.A. Palcic</u>			

Sample Description

SOLAR EVAP. POND 207 B NORTH & CENTER

Received: 2/14/84

Analysis Results

	<u>ANALYSIS</u>	<u>RESULTS</u>	
		<u>North</u>	<u>Center</u>
pH		8.1	9.7
NO ₃ as N (mg/L)		579	8.6
Gross Alpha (pCi/L)	110±56		2±16
Gross Beta (pCi/L)	25±31		3±24



Rockwell International

Energy Systems Group
Reacti Flow Plant
P.O. Box 464
Golden, Colorado 80401

ANALYTICAL REPO

To	Account No.	331	Date	2/16/84	Lab. No.	M84-311
R.L. Henry 452 C.T. Illsley 123 R.D. Gaskins 374 N.D. Hoffman 452 File					Reported by	
					Approved	

J.A. Palcic

J.A. Palcic

Sample Description

SOLAR EVAP. POND 207B CENTER

Received: 2/7/84

Analysis Results

<u>ANALYSIS</u>	<u>RESULTS</u>
Alpha (pCi/L)	5±14
Beta (pCi/L)	2±22
pH	9.1
NO ₃ as N (mg/L)	7.1



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Energy Systems Group
Rocky Flats Plant
P.O. Box 444
Golden, Colorado 80401

ANALYTICAL REPORT

To	Account No.	Date	Lab. No.
R.L. Henry 452 C.T. Illsley 123 R.D. Gaskins 374 N.D. Hoffman 452 File	331	2/8/84	M84-248
		Reported by	
		Approved	<i>J.A. Palcic</i> J.A. Palcic

Sample Description

SOLAR EVAP. POND 207B CENTER

Received: 1/31/84

Analysis Results

<u>ANALYSIS</u>	<u>RESULTS</u>
Gross Alpha (pCi/L)	20±23
Gross Beta (pCi/L)	23±26
pH	8.4
NO ₃ as N (mg/L)	5.5

Rockwell International

ANALYTICAL REPORT

Energy Systems Group
West Park Plaza
1000 Baseline
Boulder, Colorado 80301

Henry 452
Jillsley 123
Gaskins 374
Hoffman 452
le

Account No.

331

Date

2/6/84

Lab. No. M84-0182

Reported by

Approved


J.A. Palcic

Description

SOLAR EVAP. PONE 207 B CENTER

Received: 1/24/84

Results

<u>ANALYSIS</u>	<u>RESULTS</u>
Gross Alpha (pCi/L)	6±12
Gross Beta (pCi/L)	5±25
pH	7.3
NO ₃ as N (mg/L)	10.1

POND 207C DATA

SOLAR POND CLOSURE CHARACTERIZATION REPORT
ROCKY FLATS PLANT, GOLDEN, COLORADO 1 JULY 1988

APPENDICES

207C

ANALYTICAL REPORT

ROCKWELL INTERNATIONAL
NORTH AMERICAN SPACE OPERATIONS
P.O. BOX 464
GOLDEN, COLORADO 80401

GENERAL LABORATORY
BUILDING 881

DISTRIBUTION:

C. T. Illsley, HS&E T452B
R. L. Henry, HS&E T452B
File

LAB NUMBER: M85-2224
DATE: 10-03-85
ACCOUNT NO: 331

APPROVED:

J. A. Blair

SAMPLE DESCRIPTION

207 A and C Solar Pond - Quarterly - Received: 9-11-85

ANALYSIS RESULTS

<u>Analysis</u>	<u>207 A</u>	<u>207 C</u>
pH (S.U.)	10.0	12.5
NO ₃ ⁻ as N (mg/L)	21739	18841
T. D. S. (mg/L)	171976	171135
Cl ⁻ (ppm)	1.7	<0.1
Be (ug/ml)	0.1	0.6
Gross Alpha (pCi/L)	(5.6 ± 0.0) X 10 ⁴	(8.8 ± 0.6) X 10 ³
Gross Beta (pCi/L)	(2.7 ± 0.6) X 10 ⁴	(6.4 ± 1.1) X 10 ³
Pu-239 (pCi/L)	(0.0 ± 4.2) X 10 ²	(1.4 ± 0.3) X 10 ³
Am-241 (pCi/L)	(0.0 ± 1.0) X 10 ³	(1.3 ± 0.1) X 10 ⁴
U (pCi/L)	(2.6 ± 0.2) X 10 ⁴	(1.8 ± 0.3) X 10 ³
³ H (pCi/L)	(3.0 ± 0.8) X 10 ³	(7.2 ± 0.9) X 10 ²

207C

7.6

ROCKWELL INTERNATIONAL
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ANALYTICAL REPORT

GENERAL LABORATORY
BUILDING 881

DISTRIBUTION:

C. T. Illsley, HSSE T-4528
File

LAB NUMBER: M85-1557
DATE: 7-11-85
ACCOUNT NO: 331

APPROVED: *J. A. Blair*
J. A. Blair

SAMPLE DESCRIPTION

Solar Pond 207A & 207C - Quarterly Received: 6-25-85

ANALYSIS RESULTS

<u>Analysis</u>	<u>207A</u>	<u>207C</u>
pH (S.U.)	10.1	10.7
NO ₃ ⁻ as N (mg/L)	14800	8000
T.D.S. (mg/L)	10360	6420
Be (ug/ml)	0.1	<0.1
Gross Alpha (pCi/L)	2.4×10^4	6.5×10^3
Gross Beta (pCi/L)	$(5.2 \pm 1.0) \times 10^3$	$(1.1 \pm 0.2) \times 10^4$
CN ⁻ (mg/L)	<0.01	<0.01

ANALYTICAL REPORT

ROCKWELL INTERNATIONAL
ENERGY SYSTEMS GROUP
P.O. BOX 464
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GENERAL LABORATORY
BUILDING 881

DISTRIBUTION:

C. T. Illsley, HS&E T452B
R. L. Henry, HS&E T452B
File

LAB NUMBER: M85-0718
DATE: 4-25-85
ACCOUNT NO: 331

APPROVED: J. A. Blair
J. A. Blair

SAMPLE DESCRIPTION

207-C Solar Pond - Quarterly - Received: 3-25-85

ANALYSIS RESULTS

<u>Analysis</u>	<u>Results</u>
pH (S.U.)	7.7
NO ₃ ⁻ as N (mg/L)	2593
T. D. S. (mg/L)	27304
CN ⁻ (ppm)	1.9
Be (ug/ml)	<0.1
Gross Alpha (pCi/L)	(2.5 \pm 0.4) \times 10 ³
Gross Beta (pCi/L)	(4.3 \pm 0.3) \times 10 ³
Pu-239 (pCi/L)	(2.1 \pm 3.2) \times 10 ¹
Am-241 (pCi/L)	(1.1 \pm 0.5) \times 10 ²
U (pCi/L)	(3.7 \pm 0.4) \times 10 ³
³ H (pCi/L)	0.0 \pm 0.0

INFO

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ENERGY SYSTEMS GROUP
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ANALYTICAL REPORT

GENERAL LABORATORY
BUILDING 881

DISTRIBUTION:

C. T. Illsley, HS&E T452B
✓ R. L. Henry, HS&E T452B
File

LAB NUMBER: M84-2976
DATE: 12-24-84
ACCOUNT NO: 331

APPROVED: J. A. Blair
J. A. Blair

SAMPLE DESCRIPTION

Solar Pond 207C - Received: 12-5-84

ANALYSIS RESULTS

<u>ANALYSIS</u>	<u>RESULTS</u>
pH (S.U.)	9.8
NO ₃ as N (mg/L)	7050
T.D.S (mg/L)	66432
Gross Alpha (pCi/L)	(1.5 ± 0.3) × 10 ⁴
Gross Beta (pCi/L)	405 ± 79
Pu (pCi/L)	(4.6 ± 1.3) × 10 ²
U (pCi/L)	(1.5 ± 0.1) × 10 ⁴
Am (pCi/L)	(0.4 ± 1.0) × 10 ²
H ³ (pCi/L)	(1.5 ± 0.6) × 10 ³

ROCKWELL INTERNATIONAL
ENERGY SYSTEMS GROUP
P.O. BOX 464
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ANALYTICAL REPORT

GENERAL LABORATORY
BUILDING 881

DISTRIBUTION:

C. T. Illsley, T452B HS&E
File

LAB NUMBER: M84-2276
DATE: 9-27-84
ACCOUNT NO: 331

APPROVED: *J. A. Blair*
J. A. Blair

SAMPLE DESCRIPTION

Solar pond 207C - Quarterly sample - Received: 9-13-84

ANALYSIS RESULTS

<u>Analysis</u>	<u>Results</u>
pH (S. U.)	10.0
NO ₃ as N (mg/L)	7100
TDS (mg/L)	66757
Gross Alpha (pCi/L)	(1.0 ± 1.7) × 10 ⁴
Gross Beta (pCi/L)	771 ± 227
Pu (pCi/L)	(1.2 ± 0.8) × 10 ²
Am (pCi/L)	(1.4 ± 0.9) × 10 ²
U (pCi/L)	(1.3 ± 0.1) × 10 ⁴
Tritium (pCi/L)	(1.2 ± 0.4) × 10 ³

ANALYTICAL REPORT

ROCKWELL INTERNATIONAL
ENERGY SYSTEMS GROUP
P.O. BOX 464
GOLDEN, COLORADO 80401

GENERAL LABORATORY
BUILDING 881

DISTRIBUTION:

C. T. Illsley T-452B
N. D. Hoffman T-452B
R. L. Henry T-452B
R. D. Gaskins 374

File

LAB NUMBER: W84-1417
DATE: 8/15/84
ACCOUNT NO: 331

APPROVED: *J. A. Palcic*
J. A. Palcic

SAMPLE DESCRIPTION

207C Solar Pond - Quarterly Sample Received: 6/5/84

<u>Analysis</u>	<u>Result</u>
pH (S.U.)	9.6
NO ₃ as N (mg/L)	2650
Total Dissolved Solids (mg/L)	2109
Gross Alpha (pCi/L)	2886 ± 2423
Gross Beta (pCi/L)	722 ± 250
Pu - 239 (pCi/L)	(3.0 ± 1.9) × 10 ¹
Am - 241 (pCi/L)	(9.7 ± 3.4) × 10 ¹
U (pCi/L)	(3.3 ± 0.2) × 10 ³
³ H (pCi/L)	(6.4 ± 0.6) × 10 ³

ANALYTICAL REPORT

ROCKWELL INTERNATIONAL
ENERGY SYSTEMS GROUP
P.O. BOX 464
GOLDEN, COLORADO 80401

GENERAL LABORATORY
BUILDING 881

DISTRIBUTION:

C. T. Illaley T-452B
W. D. Hoffman T-452B
File

LAB NUMBER: M84-712

DATE: 5/9/84

ACCOUNT NO: 331

APPROVED: *J. A. Palcic*
J. A. Palcic

SAMPLE DESCRIPTION

Solar Pond 207C - Monthly

Received: 3/22/84

<u>Analysis</u>	<u>Result</u>
pH (S.U.)	9.7
NO ₃ as N (mg/L)	0.4
T.D.S. (mg/L)	2090
Gross Alpha (pCi/L)	(2.1 ± 1.5) × 10 ³
Gross Beta (pCi/L)	(6.2 ± 1.7) × 10 ²
H ³ (pCi/L)	(4.0 ± 1.7) × 10 ²
Pu (pCi/L)	4.9 × 10 ¹
Am (pCi/L)	1.2 × 10 ¹
U (pCi/L)	2.3 × 10 ³

POND 207A TCLP SLUDGE DATA

SOLAR POND CLOSURE CHARACTERIZATION REPORT
ROCKY FLATS PLANT, GOLDEN, COLORADO 1 JULY 1988

APPENDICES

SAMPLE NUMBER S-POND-03-21-88

DATE 3/25/88

TOTAL SPECIFIC ACTIVITY

ELEMENT	nCi/g
Gross α	0.452
Gross β	0.354
Pu (total)	0.45
Am ²⁴¹	< 6.0*
U ^{233/234/238}	0.02

TOTAL VOLUME 520 ml

DENSITY ~ 1.0

MASS 520 g

TOTAL ACTIVITY < 3.3 mCi

TOTAL nCi/g < 6.47

SIGN OFF Jenny Menard per verbal report by Lou Eng
Rockwell International
Rocky Flats Plant
written confirmation to fol.

* detection limit for rad screening

WESTON

Client: Rockwell
RFW Batch: 8803-875

Determination of Methanol in TCLP Leachates.

The leachate was analyzed by Packed Column Gas Chromatography with a Flame Ionization Detector.

GC Conditions:

Column: Six Foot x 1/4 inch glass, pack with 20% Carbowax 20M on Supelcoport (80/100 mesh)

Oven Temp: 70°C Isothermal

Injector Temp: 200°C

Detector Temp: 200°C

<u>RFW #</u>	<u>CLIENT ID</u>	<u>METHANOL</u>
8803-875-002	TCLP Leachate of S-Pond	<15 ug/mL
8803-875-002	TCLP Leachate of S-Pond Dup	<15 ug/mL
	TCLP Blank	<15 ug/mL

Date Collected: 03-21-88

Date Leached: 03-28,29-88

Date Analyzed: 03-31-88

The leachate was also screened for cyclohexanone, 1-butanol, ethylether and ethyl acetate. These analytes were not detected in the leachates (estimated detection limit of 200 ug/mL).

Carter P. Nulton, Ph.D.
Manager
Lionville Analytical Laboratory

4-1-88
DATE

WESTON

WESTON Analytics

ROCKWELL

RFW # 8803-875, VOA's Only (Special List)

W.O. # 2029-21-01

1. The following qualifiers are used on the data summary:

U - Indicates that the compound was analyzed for but not detected. The detection limit for the sample (not the method detection limit) is reported with the U (e.g., 10U).

J - Indicates an estimated value. This flag is used either when estimating a concentration for tentatively identified compounds where a 1:1 response is assumed or where the mass spectral data indicate the presence of a compound that meets the identification criteria but the result is less than the specified detection limit but greater than zero (e.g., 10J). If limit of detection is 10 ug/l and a concentration of 3 ug/l is calculated, it is reported as 3J.

BS - Indicates blank spike in which reagent grade water is spiked with the CLP matrix spiking solutions and carried through all the steps of the method. Spike recoveries are reported.

BSD - Indicates blank spike duplicate.

MS - Indicates matrix spike.

MSD - Indicates matrix spike duplicate.

DL - Indicates that surrogate recoveries were not obtained because the extract had to be diluted for analysis.

NA - Not applicable.

DF - Dilution factor.

NR - Not reported.

2. Samples Collected: 03-21-88
Leaching Date : 03-28-88
Analysis Date : 03-29,31-88

3. Samples were analyzed by the USEPA Method 8240.

4. Several Tentatively Identified Compounds (TIC's) were detected in the method blank and the sample.

Carter P. Nulton 4-1-88
Carter P. Nulton, Ph.D. DATE
Manager
Lionville Analytical Laboratories

WESTON ANALYTICS
GC/MS DATA SUMMARY
VOLATILE HAZARDOUS SUBSTANCE LIST COMPOUNDS

RFW Batch Number: 8803-875		Client: ROCKWELL (TCLP)				Page: 1	
Sample Information	Cust ID:	BLANK 3/29	TCLP BLK	S-POND	BLANK 3/31	TCLP BLK	S-POND
	RFW#:	VWBLK	BLANK	002	VWBLK	BLANK	002
	Matrix:	Water	Leachate	Leachate	Water	Leachate	Leachate
	D.P.:	1	1	1	1	1	1
	Units:	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Surrogate Recovery (%)	Toluene-d8:	97 †	98 †	96 †	94 †	98 †	99 †
	Bromofluorobenzene:	95 †	94 †	86 †	98 †	101 †	104 †
	1,2-Dichloroethane-d4:	83 †	91 †	76 †	97 †	96 †	101 †
Methylene Chloride.....		7	15 B	15 B	8	4 JB	6 B
Acetone.....		19	8000 B	5000 B	16	4200 B	5100 B
Carbon Disulfide.....		5 U	5 U	5 U	5 U	5 U	5 U
2-Butanone.....		10 U	10 U	10 U	10 U	10 U	10 U
Carbon Tetrachloride.....		5 U	5 U	5 U	5 U	5 U	5 U
1,1,1-Trichloroethane.....		1 J	6 B	3 JB	5 U	5	2 J
4-Methyl-2-pentanone.....		10 U	17	2 JB	10 U	18	10 U
Tetrachloroethene.....		5 U	5 U	6	5 U	5 U	6
Trichloroethene.....		5 U	5 U	5 U	5 U	5 U	5 U
Trichlorofluoromethane.....		5 U	5 U	5 U	5 U	5 U	5 U
Toluene.....		5 U	10	2 JB	3 J	9 B	2 JB
Chlorobenzene.....		5 U	5 U	5 U	5 U	5 U	5 U
Ethylbenzene.....		5 U	4 J	5 U	5 U	3 J	5 U
Total Xylenes.....		5 U	31	5 U	5 U	29	5 U
1,2-Dichlorobenzene.....		5 U	5 U	5 U	5 U	5 U	5 U
Isobutanol (a).....		20 U	20 U	20 U	20 U	20 U	20 U
n-Butanol (a).....		ND	ND	ND	ND	ND	ND
Cyclohexanone (a).....		ND	ND	ND	ND	ND	ND
Ethyl Acetate (a).....		ND	ND	ND	ND	ND	ND
Ethyl Ether (a).....		ND	ND	ND	ND	ND	ND
1,1,2-Trichloro-1,2,2-trifluoroethane (a).....		ND	1400	290 B	ND	890	260 B

(a) By Library Search only

U-Analyzed, not detected. B-Present in blank. NRP=Not Reported
J-Present at less than detection limit. NR=Not requested.

DATA SUMMARY FOR: ROCKWELL

R.F.W. NO.: 8803-875-TCLP BLANK

SAMPLE DESCRIPTION: TCLP BLANK 03-28

**TENTATIVELY IDENTIFIED COMPOUNDS
(VOA FRACTION)**

<u>COMPOUND</u>	<u>SCAN #</u>	<u>CONCENTRATION</u> (ug/L)
C ₆ -ALKENES/CYCLOALKANES	427	120 J
UNKNOWN	488	25 J
ALKANES	546	180 J
C ₆ -ESTER	665	4 J
C ₇ -ESTER	748	10 J

DATA SUMMARY FOR: ROCKWELL

R.F.W. NO.: 8803-875-002

SAMPLE DESCRIPTION: TCLP S-POND

TENTATIVELY IDENTIFIED COMPOUNDS
(VOA FRACTION)

<u>COMPOUND</u>	<u>SCAN #</u>	<u>CONCENTRATION</u> (ug/L)
C ₆ -CYCLOALKANES/OLEFINS	427	140 J
MIXED HYDROCARBONS	488	14 J
>C ₆ -ALKANES	546	110 J
C ₇ -ESTER	749	5 J

DATA SUMMARY FOR: ROCKWELL

R.F.W. NO.: 8803-875-TCLP BLANK

SAMPLE DESCRIPTION: TCLP BLANK 03-28

TENTATIVELY IDENTIFIED COMPOUNDS
(VOA FRACTION)

<u>COMPOUND</u>	<u>SCAN #</u>	<u>CONCENTRATION</u> (ug/L)
C ₆ -CYCLOALKANES	272	88 J
UNKNOWN	329	12 J
UNKNOWN	336	9 J
UNKNOWN	388	190 J
UNKNOWN	442	5 J
UNKNOWN	600	18 J

DATA SUMMARY FOR: ROCKWELL

R.F.W. NO.: 8803-875-002

SAMPLE DESCRIPTION: TCLP S-POND

TENTATIVELY IDENTIFIED COMPOUNDS
(VOA FRACTION)

<u>COMPOUND</u>	<u>SCAN #</u>	<u>CONCENTRATION</u> (ug/L)
C ₆ -CYCLOALKANES	269	120 J
UNKNOWN	327	10 J
UNKNOWN	387	130 J
UNKNOWN	600	8 J

APPENDIX E-2

**LABORATORY TEST RESULTS
SOLAR PONDS 207A AND 207-B
NORTH INTERCEPTOR TRENCH PUMP HOUSE
BUFFER ZONE
APRIL AND MAY 1986**

**SOLAR POND CLOSURE CHARACTERIZATION REPORT
ROCKY FLATS PLANT, GOLDEN, COLORADO 1 JULY 1988**

APPENDICES

CO7890010526

Date: March 1, 1987
Revision No.: 1

INTRODUCTION

The results presented herein are for samples from Ponds 207-A and 207-B North, the interceptor trench pump house and the buffer zone collected in April and May 1986 and resampling of the interceptor trench pump house in August 1986.

The samples are generally designated by a three character code. The last character designates the analytical sample code as shown in Table A. The remaining portion of the codes are as follows:

Liquids

Pond 207-A liquid is designated by a prefix of 207A and a two character code. The first character is, A, B or C, indicates the location, north, center or south, respectively, that the sample was taken along the west side of the pond. The meaning of the second character is shown in Table A.

Pond 207-B North liquid is designed by a prefix 207B and a two character code. The first character of the code is the same as described for the Pond 207-A liquid samples. The meaning of the second character is shown in Table A.

CO7890010526

Date: March 1, 1987
Revision No.: 1

TABLE A
ANALYTICAL SAMPLE CODE

<u>Sample Type</u>	<u>Code</u>	<u>Designation</u>
Water	1	Volatiles
	2	Semi-Volatiles
	3	Metals
	4	Cyanide
	5	Phenolics
	6	RCRA Waste Characterization
	7	Radiochemistry
	8	Tritium
Soil/Sediment	1	Volatiles
	2	Semi-Volatiles
	3	Metals and Cyanide
	4	RCRA Waste Characteristics
	5	Radiochemistry

CO7890010526

Date: March 1, 1987
Revision No.: 1

For samples from the interceptor trench pump house, the first character, L, indicates a liquid sample. The liquid was sampled in triplicate, A,B or C, designated by the second character. A second character of 0 (zero) indicates a field blank sample. In the resampling, the sample code has a prefix of ITPH.

Soils and Sediment

Sediment from Pond 207-A is designated with a 207-A prefix and three character code. The first character, S, indicates a sediment sample. The second character, A, B or C, indicates the location, north, center or south, respectively, that the sample was taken along the west side of the pond. The meaning of the third character is shown in Table A.

For samples from the interceptor trench pump house, the first characters, S, indicates a sediment sample. The second character, A or B, indicates the initial or duplicate sample, respectively. In the resampling, the sample code has a prefix of ITPH. The meaning of the third character is shown in Table A.

C07890010526

Date: March 1, 1987
Revision No.: 1

Samples from the buffer zone are designated by a three character code. The first character of the code indicates the composite sample number, 1, 2 or 3. The second character, A, B or C, indicates the sample depth. A surface scrape is designated by A, a sample from 0 to 6 inches by B and a sample from 6 to 12 inches by C.

Solar Pond 207A liquor

VOLATILE COMPOUNDS

Sample Numbers

Compound	ug/l	A1	B1	C1
Chloromethane		1000U	100U	NA
Bromomethane		1000U	100U	
Vinyl Chloride		1000U	100U	
Chloroethane		1000U	100U	
Methylene Chloride		500U	50U	
Acetone-		*260J	*100J	
Carbon Disulfide		500U	50U	
1,1 Dichloroethene		500U	50U	
1,1 Dichloroethane		500U	50U	
Trans-1,2- Dichloroethene		500U	50U	
Chloroform		500U	50U	
1,2 Dichloroethane		500U	50U	
2-Butanone		1000U	100U	
1,1,1-Trichloroethane		500U	50U	
Carbon Tetrachloride		500U	50U	
Vinyl Acetate		1000U	100U	
Bromodichloromethane		500U	50U	
1,2 Dichloropropane		500U	50U	
Trans-1,3-Dichloropropene		500U	50U	
Trichloroethene		500U	50U	
Dibromochloromethane		500U	50U	
1,1,2-Trichloroethane		500U	50U	
Benzene		500U	50U	
cis-1,3-Dichloropropene		500U	50U	
-2-Chloroethylvinylether		1000U	100U	
Bromoform		500U	50U	
4-Methyl-2-Pentanone		1000U	100U	
2-Hexanone		1000U	100U	
Tetrachloroethene		500U	50U	
1,1,2,2-Tetrachloroethane		500U	50U	
Toluene		500U	50U	
Chlorobenzene		500U	50U	
Ethylbenzene		500U	50U	
Styrene		500U	50U	
Total Xylenes		500U	50U	

U - indicates that compound was analyzed for but not detected.
 The number associated with the letter U is the minimum detection limit attainable for the sample.

J - indicates an estimated value.

Solar Pond 207A Sediments

VOLATILE COMPOUNDS

Sample Number

Compound	ug/Kg	SA1	SB1	SC1
Chloromethane	3600U	36U	4000U	
Bromomethane	3600U	36U	4000U	
Vinyl Chloride	3600U	36U	4000U	
Chloroethane	3600U	36U	4000U	
Methylene Chloride	1800U	18U	2000U	
Acetone	• 4680	• 5JB	• 1600JB	
Carbon Disulfide	1800U	18U	2000U	
1,1 Dichloroethene	1800U	18U	2000U	
1,1 Dichloroethane	1800U	18U	2000U	
Trans-1,2- Dichloroethene	1800U	18U	2000U	
Chloroform	1800U	18U	2000U	
1,2 Dichloroethane	1800U	18U	2000U	
2-Butanone	3600U	36U	4000U	
1,1,1-Trichloroethane	1800U	18U	2000U	
Carbon Tetrachloride	1800U	18U	2000U	
Vinyl Acetate	3600U	36U	4000U	
Bromodichloromethane	1800U	18U	2000U	
1,2 Dichloropropane	1800U	18U	2000U	
Trans-1,3-Dichloropropene	1800U	18U	2000U	
Trichloroethene	1800U	18U	2000U	
Dibromochloromethane	1800U	18U	2000U	
1,1,2-Trichloroethane	1800U	18U	2000U	
Benzene	1800U	18U	2000U	
cis-1,3-Dichloropropene	1800U	18U	2000U	
2-Chloroethylvinylether	3600U	36U	4000U	
Bromoform	1800U	18U	2000U	
4-Methyl-2-Pentanone	3600U	36U	4000U	
2-Hexanone	3600U	36U	4000U	
Tetrachloroethene	1800U	*200B	*1200JB	
1,1,2,2-Tetrachloroethane	1800U	18U	2000U	
Toluene	1800U	18U	2000U	
Chlorobenzene	1800U	18U	2000U	
Ethylbenzene	1800U	18U	2000U	
Styrene	1800U	18U	2000U	
Total Xylenes	1800U	18U	2000U	

U - indicates compound was analyzed for but not detected. The number associated with the letter U is the minimum attainable detection limit for the sample.

J - indicates an estimated value.

B - analyte was found in blank as well as the sample; indicates possible blank contamination.

Solar Pond 207B liquor

VOLATILE COMPOUNDS

Compound	ug/l	A1	B1	C1	O1
Chloromethane		10U	10U	10U	10U
Bromomethane		10U	10U	10U	10U
Vinyl Chloride		10U	10U	10U	10U
Chloroethane		10U	10U	10U	10U
Methylene Chloride	*28B	*35B	*19B	*71B	
Acetone		10U	10U	10U	10U
Carbon Disulfide		5U	5U	5U	5U
1,1 Dichloroethene		5U	5U	5U	5U
1,1 Dichloroethane		5U	5U	5U	5U
Trans-1,2- Dichloroethene		5U	5U	5U	5U
Chloroform		5U	5U	5U	5U
1,2 Dichloroethane		5U	5U	5U	5U
2-Butanone		10U	10U	10U	*20
1,1,1-Trichloroethane		5U	5U	5U	5U
Carbon Tetrachloride		5U	5U	5U	5U
Vinyl Acetate		10U	10U	10U	10U
Bromodichloromethane		5U	5U	5U	5U
1,2 Dichloropropane		5U	5U	5U	5U
Trans-1,3-Dichloropropene		5U	5U	5U	5U
Trichloroethene		5U	5U	5U	5U
Dibromochloromethane		5U	5U	5U	5U
1,1,2-Trichloroethane		5U	5U	5U	5U
Benzene		5U	5U	5U	5U
cis-1,3-Dichloropropene		5U	5U	5U	5U
2-Chloroethylvinylether		10U	10U	10U	10U
Bromoform		5U	5U	5U	5U
4-Methyl-2-Pentanone		10U	10U	10U	10U
2-Hexanone		10U	10U	10U	10U
Tetrachloroethene		5U	5U	5U	5U
1,1,2,2-Tetrachloroethane		5U	5U	5U	5U
Toluene		5U	5U	5U	5U
Chlorobenzene		5U	5U	5U	5U
Ethylbenzene		5U	5U	5U	5U
Styrene		5U	5U	5U	5U
Total Xylenes		5U	5U	5U	5U

U - Indicates compound was analyzed for but not detected. The number associated with the letter U is the minimum attainable detection limit for the sample.

B - Analyte was found in the blank as well as the sample; indicates possible blank contamination.

Interceptor Trench Pump House Water

VOLATILE COMPOUNDS

Compound	ug/l	LA1	LB1	LC1	LO1
Chloromethane	10U	10U	10U	10U	10U
Bromomethane	10U	10U	10U	10U	10U
Vinyl Chloride	10U	10U	10U	10U	10U
Chloroethane	10U	10U	10U	10U	10U
Methylene Chloride	*3BJ	*10B	*14B	*99B	
Acetone	10U	10U	10U	10U	10U
Carbon Disulfide	5U	5U	5U	5U	5U
1,1 Dichloroethene	5U	5U	5U	5U	5U
1,1 Dichloroethane	5U	5U	5U	5U	5U
Trans-1,2- Dichloroethene	5U	5U	5U	5U	5U
Chloroform	*3J	*6	5U	3J	
1,2-Dichloroethane	5U	5U	5U	5U	5U
2-Butanone	10U	10U	10U	*110	
1,1,1-Trichloroethane	5U	5U	5U	5U	5U
Carbon Tetrachloride	*7	*6	*7	5U	
Vinyl Acetate	10U	10U	10U	10U	
Bromodichloromethane	5U	5U	5U	5U	5U
1,2 Dichloropropane	5U	5U	5U	5U	5U
Trans-1,3-Dichloropropene	5U	5U	5U	5U	5U
Trichloroethene	*7	*8U	*8	5U	
Dibromochloromethane	5U	5U	5U	5U	5U
1,1,2-Trichloroethane	5U	5U	5U	5U	5U
Benzene	*1J	5U	5U	5U	5U
cis-1,3-Dichloropropene	5U	5U	5U	5U	5U
2-Chloroethylvinylether	10U	10U	10U	10U	
Bromoform	5U	5U	5U	5U	5U
4-Methyl-2-Pentanone	10U	10U	10U	10U	
2-Hexanone	10U	10U	10U	10U	
Tetrachloroethene	5U	5U	5U	5U	5U
1,1,2,2-Tetrachloroethane	5U	5U	5U	5U	5U
Toluene	5U	5U	5U	5U	5U
Chlorobenzene	5U	5U	5U	5U	5U
Ethylbenzene	5U	5U	5U	5U	5U
Styrene	5U	5U	5U	5U	5U
Total Xylenes	.5U	5U	5U	5U	

U - Indicates compound was analyzed for but not detected. The number associated with the letter U is the minimum attainable detection limit for the sample.

J - Indicates an estimated value.

B - Analyte was found in blank as well as the sample indicating possible blank contamination.

Interceptor Trench Pump House Sediments

VOLATILE COMPOUNDS

Sample Numbers

Compound	ug/Kg	SA1	SB1
Chloromethane		17U	16U
Bromomethane		17U	16U
Vinyl Chloride		17U	16U
Chloroethane		17U	16U
Methylene Chloride		*44B	*27B
Acetone		*23	*47
Carbon Disulfide		*3BJ	*5JB
1,1 Dichloroethene		8U	8U
1,1 Dichloroethane		8U	8U
Trans-1,2- Dichloroethene		8U	8U
Chloroform		8U	8U
1,2 Dichloroethane		8U	8U
2-Butanone		17U	16U
1,1,1-Trichloroethane		8U	8U
Carbon Tetrachloride		8U	8U
Vinyl Acetate		17U	16U
Bromodichloromethane		8U	8U
1,2 Dichloropropane		8U	8U
Trans-1,3-Dichloropropene		8U	8U
Trichloroethene		3J	*2J
Dibromochloromethane		8U	8U
1,1,2-Trichloroethane		8U	8U
Benzene		8U	8U
cis-1,3-Dichloropropene		8U	8U
2-Chloroethylvinylether		17U	16U
Bromoform		8U	8U
4-Methyl-2-Pentanone		17U	16U
2-Hexanone		17U	16U
Tetrachloroethene		8U	8U
1,1,2,2-Tetrachloroethane		8U	8U
Toluene		8U	*7J
Chlorobenzene		8U	8U
Ethylbenzene		8U	8U
Styrene		8U	8U
Total Xylenes		8U	8U

U - Indicates compound was analyzed for but not detected. The number associated with the letter U is the minimum detection limit attainable for the sample.

J - Indicates as estimated value.

B - Analyte was found in the blank as well as the sample indicating possible blank contamination.

Buffer Zone Soils

VOLATILE COMPOUNDS

Composite 1 - Sample Numbers

Compound	ug/Kg	surface scrape 1A1	0-6" 1B1	6-12" 1C1
Chloromethane		10U	13U	14U
Bromomethane		10U	13U	14U
Vinyl Chloride		10U	13U	14U
Chloroethane		10U	13U	14U
Methylene Chloride	5U		*46B	*39B
Acetone	10U		13U	*130
Carbon Disulfide	5U		*3BJ	*3BJ
1,1 Dichloroethene	5U		6U	7U
1,1 Dichloroethane	5U		6U	7U
Trans-1,2- Dichloroethene	5U		6U	7U
Chloroform	5U		6U	7U
1,2 Dichloroethane	5U		6U	7U
2-Butanone	10U		13U	*61
1,1,1-Trichloroethane	5U		6U	7U
Carbon Tetrachloride	5U		6U	7U
Vinyl Acetate	10U		13U	14U
Bromodichloromethane	5U		6U	7U
1,2 Dichloropropane	5U		6U	7U
Trans-1,3-Dichloropropene	5U		6U	7U
Trichloroethene	5U		6U	7U
Dibromochloromethane	5U		6U	7U
1,1,2-Trichloroethane	5U		6U	7U
Benzene	5U		6U	7U
cis-1,3-Dichloropropene	5U		6U	7U
2-Chloroethylvinylether	10U		13U	14U
Bromoform	5U		6U	7U
4-Methyl-2-Pentanone	10U		13U	14U
2-Hexanone	10U		13U	14U
Tetrachloroethene	5U		6U	7U
1,1,2,2-Tetrachloroethane	5U		6U	7U
Toluene	*1JB		6U	*3J
Chlorobenzene	5U		6U	7U
Ethylbenzene	5U		6U	7U
Styrene	5U		6U	7U
Total Xylenes	5U		6U	7U

U - Indicates compound was analyzed for but not detected. The number associated with the letter U is the minimum attainable detection limit for the sample.

J - Indicates an estimated value.

B - Analyte was found in blank as well as the sample indicating possible blank contamination.

Buffer Zone Soils

VOLATILE COMPOUNDS

Composite 2 - Sample Numbers

Compound	ug/Kg	surface scrape 2A1	0-6" 2B1	6-12" 2C1
Chloromethane		10U	13U	NA
Bromomethane		10U	13U	
Vinyl Chloride		10U	13U	
Chloroethane		10U	13U	
Methylene Chloride		5U	*32B	
Acetone		*10B	13U	
Carbon Disulfide		5U	*2BJ	
1,1 Dichloroethene		5U	6U	
1,1 Dichloroethane		5U	6U	
Trans-1,2- Dichloroethene		5U	6U	
Chloroform		5U	6U	
1,2 Dichloroethane		5U	6U	
2-Butanone		10U	13U	
1,1,1-Trichloroethane		5U	6U	
Carbon Tetrachloride		5U	6U	
Vinyl Acetate		10U	13U	
Bromodichloromethane		5U	6U	
1,2 Dichloropropane		5U	6U	
Trans-1,3-Dichloropropene		5U	6U	
Trichloroethene		5U	6U	
Dibromochloromethane		5U	6U	
1,1,2-Trichloroethane		5U	6U	
Benzene		5U	6U	
cis-1,3-Dichloropropene		5U	6U	
2-Chloroethylvinylether		10U	13U	
Bromoform		5U	6U	
4-Methyl-2-Pentanone		10U	13U	
2-Hexanone		10U	13U	
Tetrachloroethene		5U	6U	
1,1,2,2-Tetrachloroethane		5U	6U	
Toluene		*1JB	6U	
Chlorobenzene		5U	6U	
Ethylbenzene		5U	6U	
Styrene		5U	6U	
Total Xylenes		5U	6U	

U - Indicates compound was analyzed for but not detected. The number associated with the letter U is the minimum attainable detection limit for the sample.

J - Indicates an estimated value.

B - Analyte was found in blank as well as the sample indicating possible blank contamination.

Buffer Zone Soils

VOLATILE COMPOUNDS

composite 3 - Sample Numbers

Compound	ug/Kg	surface scrape 3A1	0-6" 3B1	6-12" 3C1
Chloromethane		10U	13U	13U
Bromomethane		10U	13U	13U
Vinyl Chloride		10U	13U	13U
Chloroethane		10U	13U	13U
Methylene Chloride		5U	*32B	*28B
Acetone		*10B	13U	*71
Carbon Disulfide		5U	*2Bj	6U
1,1 Dichloroethene		5U	7U	6U
1,1 Dichloroethane		5U	7U	6U
Trans-1,2- Dichloroethene		5U	7U	6U
Chloroform		5U	7U	6U
1,2 Dichloroethane		5U	7U	6U
2-Butanone		10U	*20	*26
1,1,1-Trichloroethane		5U	7U	6U
Carbon Tetrachloride		5U	7U	6U
Vinyl Acetate		10U	13U	13U
Bromodichloromethane		5U	7U	6U
1,2 Dichloropropane		5U	7U	6U
Trans-1,3-Dichloropropene		5U	7U	6U
Trichloroethene		5U	7U	6U
Dibromochloromethane		5U	7U	6U
1,1,2-Trichloroethane		5U	7U	6U
Benzene		5U	7U	6U
cis-1,3-Dichloropropene		5U	7U	6U
2-Chloroethylvinylether		10U	13U	13U
Bromoform		5U	7U	6U
4-Methyl-2-Pentanone		10U	13U	13U
2-Hexanone		10U	13U	13U
Tetrachloroethene		5U	7U	6U
1,1,2,2-Tetrachloroethane		5U	7U	6U
Toluene		*1JB	7U	6U
Chlorobenzene		5U	7U	6U
Ethylbenzene		5U	7U	6U
Styrene		5U	7U	6U
Total Xylenes		5U	7U	6U

U - Indicates compound was analyzed for but not detected. The number associated with the letter U is the minimum attainable detection limit for the sample.

J - Indicates an estimated value.

B - Analyte was found in blank as well as the sample indicating possible blank contamination.



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Mr. Mark Selman
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Denver, CO 80215

RE: 9299-21884-6
Date Samples Rec'd 5-7-86
Project 2029-13-03-01

REPORT OF ANALYSIS

ALR Designation	9299-21884-6-5	9299-21884-6-6
Sponsor Designation	207A-87 Solar Pond Depth ≈ 4" 5-7-86	207A-88 Solar Pond Depth ≈ 4" 5-7-86

Determination: pCi/L

Gross Alpha, ± counting error*	80000 ± 6000	--
Gross Beta, ± counting error*	40000 ± 2000	--
Plutonium-239, ± counting error*	660 ± 50	--
Americium-241, ± counting error*	45 ± 14	--
Uranium-233 + 234, ± counting error*	14000 ± 1000	--
Uranium-238, ± counting error*	21000 ± 1000	--
Tritium, ± counting error*	--	930 ± 260

*Variability of the radioactive disintegration process (counting error)
at the 95% confidence level, 1.96σ.


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RE: 9299-21856-6
Date Samples Rec'd 5-1-86
Project 2029-13-03-01

REPORT OF ANALYSIS

ALR Designation
Sponsor Designation

9299-21856-6-5
207A-A7
Solar Pond
Northwest
5-1-86

9299-21856-6-6
207A-A8
Solar Pond
Northwest
5-1-86

Determination: pCi/L

Gross Alpha, dissolved, ± counting error*	46000 ± 4000	--
Gross Beta, dissolved, ± counting error*	37000 ± 2000	--
Plutonium-239, dissolved, ± counting error*	84 ± 16	--
Americium-241, dissolved, ± counting error*	-2.2 ± 3.6	--
Uranium-233 + 234, dissolved. ± counting error*	17000 ± 1000	--
Uranium-238, dissolved, ± counting error*	22000 ± 1000	--
Tritium, total, ± counting error*	--	610 ± 270

*Variability of the radioactive disintegration process (counting error)
at the 95% confidence level, 1.96σ.

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Mr. Mark Selman
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RE: 9299-21870-8
Date Samples Rec'd 5-6-86
Project No. 2029-13-03

REPORT OF ANALYSIS

ALR Designation	9299-21870-8-5	9299-21870-8-6	9299-21870-8-7	9299-21870-8-8
Sponsor Designation	207A-SA7	207A-SA8	207A-SA9	207A-SA10
	Solar Pond	Solar Pond	Solar Pond	Solar Pond
	NW Corner	NW Corner	NW Corner	NW Corner
	5-5-86	5-5-86	5-5-86	5-5-86
Determination: pCi/g (dry)				
Gross Alpha, ± counting error*	14000 ± 1000	--	7400 ± 200	--
Gross Beta, ± counting error*	560 ± 50	--	160 ± 20	--
Plutonium-239, ± counting error*	3700 ± 100	--	1500 ± 100	--
Americium-241, ± counting error*	4400 ± 100	--	2800 ± 100	--
Uranium-233 + Uranium-234, ± counting error*	200 ± 20	--	570 ± 30	--
Uranium-238, ± counting error*	130 ± 10	--	280 ± 20	--
Tritium, ± counting error*, pCi/L	--	9300 ± 800	--	12000 ± 1000
Air Dry Loss, %	--	76.7	--	73.2

*Variability of the radioactive disintegration process (counting error) at the 95% confidence level, 1.96σ.


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Mr. Mark Selman
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RE: 9299-21890-6
Date Samples Rec'd 5-8-86
Project 2029-13-03-01

REPORT OF ANALYSIS

ALR Designation	9299-21890-6-5	9299-21890-6-6
Sponsor Designation	207A-SB7 Solar Pond Center West 5-8-86	207A-SB8 Solar Pond Center West 5-8-86

Determination: pCi/g (dry)

Gross Alpha, ± counting error*	4700 ± 200	--
Gross Beta, ± counting error*	190 ± 40	--
Plutonium-239, ± counting error*	3400 ± 100	--
Americium-241, ± counting error*	1400 ± 200	--
Uranium-233 + 234, ± counting error*	180 ± 20	--
Uranium-238, ± counting error*	210 ± 20	--
Tritium, ± counting error*, pCi/L	--	2400 ± 600
Air Dry Loss, %	--	78.3

*Variability of the radioactive disintegration process (counting error)
at the 95% confidence level, 1.96σ.


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Mr. Mark Selman
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RE: 9299-21907-6
Date Samples Rec'd 5-12-86
Project 2029-13-03-01

CORRECTED REPORT

REPORT OF ANALYSIS

ALR Designation	9299-21907-6-5	9299-21907-6-6
Sponsor Designation	207A-SC7 Solar Pond SW Corner 5-12-86	207A-SC8 Solar Pond SW Corner 5-12-86

Determination: pCi/g (dry)

Gross Alpha, ± counting error*	12000 ± 1000	--
Gross Beta, ± counting error*	1400 ± 100	--
Plutonium-239, ± counting error*	1700 ± 100	--
Americium-241, ± counting error*	3500 ± 100	--
Uranium-233 + 234, ± counting error*	120 ± 20	--
Uranium-238, ± counting error*	480 ± 30	--
Tritium, ± counting error*, pCi/L	--	1300 ± 500
Air Dry Loss, %	75.7	--

*Variability of the radioactive disintegration process (counting error)
at the 95% confidence level, 1.96σ.


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Denver, CO 80215

RE: 9299-21907-6
Date Samples Rec'd 5-12-86
Project 2029-13-03-01

REPORT OF ANALYSIS

ALR Designation
Sponsor Designation

9299-21907-6-5
207A-SC7
Solar Pond
SW Corner
5-12-86

9299-21907-6-6
207A-SC8
Solar Pond
SW Corner
5-12-86

Determination: pCi/g (dry)

Gross Alpha, ± counting error*	12000 ± 1000	--
Gross Beta, ± counting error*	1400 ± 100	--
Plutonium-239, ± counting error*	1000 ± 100	--
Americium-241, ± counting error*	2100 ± 100	--
Uranium-233 + 234, ± counting error*	71 ± 10	--
Uranium-238, ± counting error*	280 ± 20	--
Tritium, ± counting error*, pCi/L	--	1500 ± 600
Air Dry Loss, %	58.8	--

*Variability of the radioactive disintegration process (counting error)
at the 95% confidence level, 1.96σ.



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Mr. Mark Selman
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RE: 9299-21943-11
Date Samples Rec'd 5-15-86
Project No. 2029-13-03

REPORT OF ANALYSIS

ALR Designation	9299-21943-11-5	9299-21943-11-6	9299-21943-11-10	9299-21943-11-11
Sponsor Designation	207A-C7 Solar Pond Southwest 5-15-86	207A-C8 Solar Pond Southwest 5-15-86	207A-07 Solar Pond Southwest 5-15-86	207A-08 Solar Pond Southwest 5-15-86

Determination: pCi/L

Gross Alpha, ± counting error*	63000 ± 6000	--	32 ± 38	--
Gross Beta, ± counting error*	35000 ± 2000	--	-2 ± 83	--
Plutonium-239, ± counting error*	56 ± 16	--	2.9 ± 6.3	--
Americium-241, ± counting error*	11 ± 7	--	0.2 ± 5.2	--
Uranium-233 + Uranium-234, ± counting error*	20000 ± 1000	--	-2 ± 23	--
Uranium-238, ± counting error*	28000 ± 1000	--	4 ± 19	--
Tritium, ± counting error*, pCi/L	--	640 ± 190	--	240 ± 180

*Variability of the radioactive disintegration process (counting error) at the 95% confidence level, 1.960.

BS/dh *[Signature]*

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RE: 9299-21823-20
Date Samples Rec'd 4-28-86
Project No. 2029-13-03

REPORT OF ANALYSIS

ALR Designation	9299-21823-20-1	9299-21823-20-2	9299-21823-20-7	9299-21823-20-8	9299-21823-20-13
Sponsor Designation	LA7 (ITPH) Sample A	LA8 (ITPH) Sample A	LB7 (ITPH) Sample B	LB8 (ITPH) Sample B	LC7 (ITPH) Sample C
Determination: pCi/L					
Gross Alpha, dissolved, ± counting error*	120 ± 40	--	120 ± 40	--	100 ± 40
Gross Beta, dissolved, ± counting error*	120 ± 40	--	75 ± 25	--	100 ± 30
Plutonium-239, dissolved, ± counting error*	0.16 ± 0.10	--	0.05 ± 0.08	--	0.06 ± 0.06
Americium-241, dissolved, ± counting error*	-0.01 ± 0.03	--	0.00 ± 0.04	--	0.02 ± 0.05
Uranium-233 + Uranium-234, dissolved, ± counting error*	66 ± 2	--	62 ± 2	--	66 ± 2
Uranium-238, dissolved, ± counting error*	44 ± 2	--	41 ± 2	--	40 ± 2
Tritium, total, ± counting error*	--	2700 ± 300	--	3400 ± 300	--

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Mr. Mark Selman
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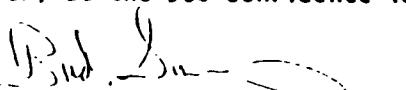
RE: 9299-21823-20
Date Samples Rec'd 4-28-86
Project No. 2029-13-03

REPORT OF ANALYSIS

ALR Designation	9299-21823-20-14	9299-21823-20-19	9299-21823-20-20
Sponsor Designation	LC8 (ITPH) <u>Sample C</u>	L07 HPLC <u>Distilled Water</u>	L08 HPLC <u>Distilled Water</u>
Determination: pCi/L			
Gross Alpha, dissolved, ± counting error*	--	-1 ± 2	--
Gross Beta, dissolved, ± counting error*	--	-2 ± 4	--
Plutonium-239, dissolved, ± counting error*	--	0.01 ± 0.05	--
Americium-241, dissolved, ± counting error*	--	-0.01 ± 0.03	--
Uranium-233 + Uranium-234, dissolved, ± counting error*	--	0.05 ± 0.27	--
Uranium-238, dissolved, ± counting error*	--	-0.09 ± 0.24	--
Tritium, total, ± counting error*	3400 ± 300	--	40 ± 260

*Variability of the radioactive disintegration process (counting error) at the 95% confidence level, 1.96σ.

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July 17, 1986
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RE: 9299-21843-6
Date Samples Rec'd 4-30-86
Project 2029-13-03

REPORT OF ANALYSIS

ALR Designation	9299-21843-6-2	9299-21843-6-4	9299-21843-6-6
Sponsor Designation	2078-87	2078-C7	2078-07
	Solar Pond	Solar Pond	Solar Pond
North (Central)	North (Central)	North (Central)	North (Central)
	4-30-86	4-30-86	4-30-86

Determination: pCi/L

Gross Alpha, dissolved, ± counting error*	93 ± 60	74 ± 58	16 ± 41
Gross Beta, dissolved, ± counting error*	25 ± 89	100 ± 92	-21 ± 84
Plutonium-239, diss., ± counting error*	-0.02 ± 0.11	-0.03 ± 0.06	0.05 ± 0.07
Americium-241, diss., ± counting error*	0.08 ± 0.08	-0.02 ± 0.04	0.08 ± 0.22
Uranium-233 + 234, dissolved, ± counting error*	51 ± 2	53 ± 2	0.10 ± 0.24
Uranium-238, dissolved, ± counting error*	32 ± 1	33 ± 1	-0.10 ± 0.21

*Variability of the radioactive disintegration process (counting error)
at the 95% confidence level, 1.96σ.


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RE: 9299-21833-18
Date Samples Rec'd 4-29-86
Project No. 2029-13-03

REPORT OF ANALYSIS

ALR Designation	9299-21833-18-5	9299-21833-18-6	9299-21833-18-10	9299-21833-18-14	9299-21833-18-18
Sponsor Designation	Solar Pond 207B-A7	Solar Pond 207B-A8	Solar Pond 207B-B8	Solar Pond 207B-C8	Solar Pond 207B-08
	North Northwest Corner 4-29-86	North Northwest Corner 4-29-86	North Central 4-29-86	North Northeast 4-29-86	Field Blank 4-29-86
Determination: pCi/L					
Gross Alpha, dissolved, ± counting error*	120 ± 50	--	--	--	--
Gross Beta, dissolved, ± counting error*	56 ± 32	--	--	--	--
Plutonium-239, dissolved, ± counting error*	0.01 ± 0.06	--	--	--	--
Americium-241, dissolved, ± counting error*	-0.02 ± 0.04	--	--	--	--
Uranium-233 + Uranium-234, dissolved, ± counting error*	50 ± 2	--	--	--	--
Uranium-238, dissolved, ± counting error*	31 ± 1	--	--	--	--
Tritium, total, ± counting error*	--	1200 ± 300	1200 ± 300	1300 ± 300	-40 ± 260

*Variability of the radioactive disintegration process (counting error) at the 95% confidence level, 1.960.

[Handwritten signature]
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July 7, 1986
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Denver, CO 80215

RE: 9299-21741-27
Date Samples Rec'd 4-15-86
Project No. 2029-13-03

REPORT OF ANALYSIS

ALR Designation	9299-21741-27-3	9299-21741-27-6	9299-21741-27-9	9299-21741-27-12	9299-21741-27-15
Sponsor Designation	<u>1B5 (BZ)</u>	<u>1C5 (BZ)</u>	<u>2B5 (BZ)</u>	<u>2C5 (BZ)</u>	<u>3B5 (BZ)</u>

Determination: pCi/g (dry)

Gross Alpha, ± counting error*	46 ± 15	18 ± 11	47 ± 15	36 ± 13	35 ± 13
Gross Beta, ± counting error*	34 ± 6	31 ± 6	40 ± 7	28 ± 5	30 ± 6
Plutonium-239, ± counting error*	0.01 ± 0.10	0.05 ± 0.21	0.07 ± 0.21	0.03 ± 0.21	0.09 ± 0.22
Americium-241, ± counting error*	0.28 ± 0.16	0.01 ± 0.07	0.02 ± 0.06	0.07 ± 0.10	0.00 ± 0.08
Uranium-233 + Uranium-234, ± counting error*	0.77 ± 0.17	0.67 ± 0.17	0.86 ± 0.17	0.67 ± 0.15	0.89 ± 0.19
Uranium-238, ± counting error*	0.66 ± 0.16	0.62 ± 0.17	0.92 ± 0.18	0.84 ± 0.17	0.75 ± 0.18
Tritium, ± counting error*, pCi/mL	-0.07 ± 0.22	0.13 ± 0.23	0.04 ± 0.23	0.08 ± 0.23	0.20 ± 0.23
Air Dry Loss, %	22.3	28.2	21.6	20.1	22.8

July 7, 1986

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Mr. Mark Selman
Roy F. Weston

RE: 9299-21741-27
Date Samples Rec'd 4-15-86
Project No. 2029-13-03

REPORT OF ANALYSIS

ALR Designation	9299-21741-27-18	9299-21741-27-21	9299-21741-27-24	9299-21741-27-27
Sponsor Designation	<u>3CS (BZ)</u>	<u>1D5 (BZ)</u>	<u>1E5 (BZ)</u>	<u>1FS (BZ)</u>
Determination: pCi/g (dry)				
Gross Alpha, ± counting error*	37 ± 14	52 ± 16	44 ± 15	21 ± 11
Gross Beta, ± counting error*	29 ± 6	40 ± 6	32 ± 6	29 ± 6
Plutonium-239, ± counting error*	0.05 ± 0.21	0.12 ± 0.21	0.07 ± 0.20	-0.08 ± 0.09
Americium-241, ± counting error*	-0.02 ± 0.03	0.01 ± 0.05	-0.02 ± 0.03	-0.02 ± 0.03
Uranium-233 + Uranium-234, ± counting error*	0.66 ± 0.16	1.1 ± 0.2	0.73 ± 0.17	0.59 ± 0.13
Uranium-238, ± counting error*	0.76 ± 0.18	1.2 ± 0.2	0.80 ± 0.18	0.61 ± 0.14
Tritium, ± counting error*, pCi/mL	0.28 ± 0.27	0.34 ± 0.23	0.34 ± 0.23	0.54 ± 0.24
Air Dry Loss, %	19.8	26.1	20.5	16.2

*Variability of the radioactive disintegration process (counting error) at the 95% confidence level, 1.96σ.

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Radiochemistry
Supervisor



Accu-Labs Research, Inc.
11485 W 48th Avenue Wheat Ridge, Colorado 80033
(303) 423-2766

June 19, 1986
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Mr. Mark Selman
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RE: 9299-21732-9
Date Samples Rec'd 4-14-86
Project 2029-13-03

REPORT OF ANALYSIS

ALR Designation	9299-21732-9-3	9299-21732-9-6	9299-21732-9-9
Sponsor Designation	1AS (BZ)	2AS (BZ)	3AS (BZ)
	Composite 1	Composite 2	Composite 3
	<u>Surface Scrape</u>	<u>Surface Scrape</u>	<u>Surface Scrape</u>

Determination: pCi/g (dry)

Gross Alpha, ± counting error*	67 ± 17	71 ± 18	75 ± 18
Gross Beta, ± counting error*	55 ± 7	50 ± 7	56 ± 7
Plutonium-239, ± counting error*	0.10 ± 0.20	0.02 ± 0.10	0.02 ± 0.21
Americium-241, ± counting error*	-0.02 ± 0.03	-0.02 ± 0.03	0.00 ± 0.05
Uranium-233 + 234, ± counting error*	1.1 ± 0.2	1.2 ± 0.2	1.4 ± 0.2
Uranium-238, ± counting error*	0.89 ± 0.20	1.2 ± 0.2	1.2 ± 0.2
Tritium, ± counting error*, pCi/ml	0.09 ± 0.23	0.02 ± 0.22	-0.05 ± 0.22
Air Dry Loss, %	24.8	21.9	22.5

*Variability of the radioactive disintegration process (counting error)
at the 95% confidence level, 1.96σ.



Bud Summers

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RE: 9299-21884-6
Date Samples Rec'd 5-7-86
Project 2029-13-03-01

REPORT OF ANALYSIS

ALR Designation	9299-21884-6-1	9299-21884-6-3
Sponsor Designation	207A-83 Solar Pond Depth ≈ 4" 5-7-86	207A-85 Solar Pond Depth ≈ 4" 5-7-86

Determination: $\mu\text{g/L}$

Aluminum, total	2640	--
Antimony, total	600U	--
Arsenic, total	150	--
Barium, total	200U	--
Beryllium, total	43	--
Cadmium, total	70	--
Calcium, total	[880]	--
Chromium, total	16700	--
Cobalt, total	200	--
Copper, total	1800	--
Iron, total	1600	--
Lead, total	50U	--
Magnesium, total	[1650]	--
Manganese, total	115	--
Mercury, total	0.2	--
Nickel, total	1900	--
Potassium, total	14,300,000	--
Selenium, total	50U	--
Silver, total	370	--
Sodium, total	42,900,000	--
Thallium, total	100U	--
Tin, total	13000	--
Vanadium, total	100	--
Zinc, total	780	--
Phenols	--	35

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RE: 9299-21856-6
Date Samples Rec'd 5-1-86
Project 2029-13-03

REPORT OF ANALYSIS

ALR Designation
Sponsor Designation

9299-21856-6-1
207A-A3
Solar Pond
Northwest
5-1-86

9299-21856-6-3
207A-A5
Solar Pond
Northwest
5-1-86

Determination: $\mu\text{g/L}$

Aluminum, total	2420	--
Antimony, total	600U	--
Arsenic, total	150	--
Barium, total	200U	--
Beryllium, total	27	--
Cadmium, total	100	--
Calcium, total	[990]	--
Chromium, total	16300	--
Cobalt, total	200	--
Copper, total	1610	--
Iron, total	8000	--
Lead, total	50U	--
Magnesium, total	[1540]	--
Manganese, total	105	--
Mercury, total	0.2U	--
Nickel, total	1900	--
Potassium, total	13,200,000	--
Selenium, total	50U	--
Silver, total	310	--
Sodium, total	36,300,000	--
Thallium, total	100U	--
Tin, total	7000	--
Vanadium, total	120	--
Zinc, total	620	--
Phenols	--	13

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RE: 9299-21943-11
Date Samples Rec'd 5-15-86
Project 2029-13-03-01

REPORT OF ANALYSIS

ALR Designation	9299-21943-11-1	9299-21943-11-3
Sponsor Designation	207A-C3 Solar Pond Southwest 5-15-86	207A-C5 Solar Pond Southwest 5-15-86

Determination: $\mu\text{g/L}$

Aluminum, total	2310	--
Antimony, total	600U	--
Arsenic, total	1000U	--
Barium, total	200U	--
Beryllium, total	39	--
Cadmium, total	150	--
Calcium, total	[770]	--
Chromium, total	13700	--
Cobalt, total	500	--
Copper, total	1750	--
Iron, total	1500	--
Lead, total	50U	--
Magnesium, total	[1540]	--
Manganese, total	95	--
Mercury, total	0.2U	--
Nickel, total	2000	--
Potassium, total	14,300,000	--
Selenium, total	50U	--
Silver, total	350	--
Sodium, total	38,500,000	--
Thallium, total	100U	--
Tin, total	13000	--
Vanadium, total	210	--
Zinc, total	690	--
Phenols	--	14

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Mr. Mark Selman
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RE: 9299-21943-11
Date Samples Rec'd 5-15-86
Project 2029-13-03-01

REPORT OF ANALYSIS

ALR Designation	9299-21943-11-7	9299-21943-11-8
Sponsor Designation	207A-03 Solar Pond Southwest 5-15-86	207A-05 Solar Pond Southwest 5-15-86

Determination: $\mu\text{g/L}$

Aluminum, total	200U	--
Antimony, total	60U	--
Arsenic, total	10U	--
Barium, total	200U	--
Beryllium, total	5U	--
Cadmium, total	5U	--
Calcium, total	[440]	--
Chromium, total	5U	--
Cobalt, total	20U	--
Copper, total	[7]	--
Iron, total	[90]	--
Lead, total	11	--
Magnesium, total	[99]	--
Manganese, total	5U	--
Mercury, total	0.2U	--
Nickel, total	20U	--
Potassium, total	[1430]	--
Selenium, total	5U	--
Silver, total	5U	--
Sodium, total	15400	--
Thallium, total	10U	--
Tin, total	40U	--
Vanadium, total	5U	--
Zinc, total	57	--
Phenols	--	2

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RE: 9299-21870-8
Date Samples Rec'd 5-6-86
Project 2029-13-03

REPORT OF ANALYSIS

ALR Designation	9299-21870-8-1	9299-21870-8-3
Sponsor Designation	207A-SA3 Solar Pond NW Corner <u>5-5-86</u>	207A-SAS Solar Pond NW Corner <u>5-5-86</u>

Determination: mg/kg dry wt.

Aluminum, total	11300	--
Antimony, total	250U	--
Arsenic, total	42U	--
Barium, total	833U	--
Beryllium, total	309	--
Cadmium, total	1110	--
Calcium, total	24100	--
Chromium, total	1010	--
Cobalt, total	83U	--
Copper, total	425	--
Iron, total	3590	--
Lead, total	65	--
Magnesium, total	20400	--
Manganese, total	153	--
Mercury, total	7.5	--
Nickel, total	124	--
Potassium, total	59000	--
Selenium, total	21U	--
Silver, total	153	--
Sodium, total	154000	--
Thallium, total	42U	--
Tin, total	167U	--
Vanadium, total	208U	--
Zinc, total	248	--
Phenols, total	--	1.7U

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RE: 9299-21890-6
Date Samples Rec'd 5-8-86
Project 2029-13-03-0001

REPORT OF ANALYSIS

ALR Designation	9299-21890-6-1	9299-21890-6-3
Sponsor Designation	207A-SB3 Solar Pond Center West 5-8-86	207A-SB5 Solar Pond Center West 5-8-86

Determination: mg/kg dry wt.

Aluminum, total	11000	--
Antimony, total	273U	--
Arsenic, total	45U	--
Barium, total	909U	--
Beryllium, total	668	--
Cadmium, total	10500	--
Calcium, total	50000	--
Chromium, total	1500	--
Cobalt, total	91U	--
Copper, total	1590	--
Iron, total	5550	--
Lead, total	455	--
Magnesium, total	21000	--
Manganese, total	595	--
Mercury, total	25	--
Nickel, total	1320	--
Potassium, total	50000	--
Selenium, total	23U	--
Silver, total	191	--
Sodium, total	130000	--
Thallium, total	45U	--
Tin, total	182U	--
Vanadium, total	227U	--
Zinc, total	595	--
Phenols, total	--	1.8U

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RE: 9299-21907-6
Date Samples Rec'd 5-12-86
Project 2029-13-03-01

REPORT OF ANALYSIS

ALR Designation	9299-21907-6-1	9299-21907-6-3
Sponsor Designation	207A-SC3 Solar Pond SW Corner 5-12-86	207A-SC5 Solar Pond SW Corner 5-12-86

Determination: mg/kg dry wt.

Aluminum, total	11900	--
Antimony, total	333U	--
Arsenic, total	56U	--
Barium, total	1110U	--
Beryllium, total	1570	--
Cadmium, total	1220	--
Calcium, total	19600	--
Chromium, total	19700	--
Cobalt, total	111U	--
Copper, total	879	--
Iron, total	6900	--
Lead, total	142	--
Magnesium, total	6110	--
Manganese, total	178	--
Mercury, total	10	--
Nickel, total	162	--
Potassium, total	65300	--
Selenium, total	28U	--
Silver, total	237	--
Sodium, total	166000	--
Thallium, total	56U	--
Tin, total	222U	--
Vanadium, total	278U	--
Zinc, total	227	--
Phenols, total	--	3.3

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June 11, 1986
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RE: 9299-21823-20
Date Samples Rec'd 4-28-86
Project 2023-13-03

REPORT OF ANALYSIS

ALR Designation	9299-21823-20-3	9299-21823-20-5	9299-21823-20-9
Sponsor Designation	LB3 (ITPH) Sample B	LB5 (ITPH) Sample B	LC3 (ITPH) Sample C

Determination: $\mu\text{g/L}$

Aluminum, total	200U	--	200U
Antimony, total	60U	--	60U
Arsenic, total	10U	--	10U
Barium, total	200U	--	220
Beryllium, total	5U	--	5U
Cadmium, total	5U	--	5U
Calcium, total	308000	--	319000
Chromium, total	[9]	--	[7]
Cobalt, total	20U	--	20U
Copper, total	5U	--	5U
Iron, total	20U	--	20U
Lead, total	5U	--	5U
Magnesium, total	76800	--	77400
Manganese, total	[12]	--	[13]
Mercury, total	0.5	--	0.4
Nickel, total	20U	--	20U
Potassium, total	73700	--	71500
Selenium, total	11	--	12
Silver, total	12	--	10
Sodium, total	451000	--	462000
Thallium, total	10U	--	10U
Tin, total	400U	--	400U
Vanadium, total	50U	--	50U
Zinc, total	24	--	30
Phenols, total	--	10	--

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Mr. Mark Selman
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RE: 9299-21823-20
Date Samples Rec'd 4-28-86
Project 2023-13-03

REPORT OF ANALYSIS

ALR Designation	9299-21823-20-11	9299-21823-20-15	9299-21823-20-17
Sponsor Designation	LCS (ITPH) Sample C	LO3 HPLC Distilled Water	LO5 HPLC Distilled Water

Determination: $\mu\text{g/L}$

Aluminum, total	--	200U	--
Antimony, total	--	60U	--
Arsenic, total	--	10U	--
Barium, total	--	200U	--
Beryllium, total	--	5U	--
Cadmium, total	--	5U	--
Calcium, total	--	[220]	--
Chromium, total	--	5U	--
Cobalt, total	--	20U	--
Copper, total	--	5U	--
Iron, total	--	[80]	--
Lead, total	--	5U	--
Magnesium, total	--	[66]	--
Manganese, total	--	5U	--
Mercury, total	--	0.2U	--
Nickel, total	--	20U	--
Potassium, total	--	[220]	--
Selenium, total	--	5U	--
Silver, total	--	5U	--
Sodium, total	--	[440]	--
Thallium, total	--	10U	--
Tin, total	--	40U	--
Vanadium, total	--	50U	--
Zinc, total	--	58	--
Phenols, total	2U	--	2

Funda Heegmeyer for cc.
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RE: 9299-21843-6
Date Samples Rec'd 4-30-86
Project 2029-13-03

REPORT OF ANALYSIS

ALR Designation	9299-21843-6-1	9299-21843-6-3	9299-21843-6-5
Sponsor Designation	2078-B3 Solar Pond North (Center) 4-30-86	2078-C3 Solar Pond North (Center) 4-30-86	2078-03 Solar Pond North (Center) 4-30-86
Determination: $\mu\text{g/L}$			
Aluminum, total	200U	200U	200U
Antimony, total	60U	60U	60U
Arsenic, total	10U	10U	10U
Barium, total	200U	220	200U
Beryllium, total	5U	5U	5U
Cadmium, total	5U	5U	5U
Calcium, total	187000	176000	[990]
Chromium, total	5U	[9]	5U
Cobalt, total	20U	20U	20U
Copper, total	[6]	5U	5U
Iron, total	20U	20U	[20]
Lead, total	5U	5U	5U
Magnesium, total	67500	66400	[407]
Manganese, total	5U	5U	5U
Mercury, total	0.2U	0.2U	0.2U
Nickel, total	[30]	20U	20U
Potassium, total	62700	60500	[110]
Selenium, total	9	9	5U
Silver, total	[5]	[7]	5U
Sodium, total	374000	363000	[330]
Thallium, total	10U	10U	10U
Tin, total	400U	400U	40U
Vanadium, total	50U	50U	50U
Zinc, total	5U	5U	[11]

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June 26, 1986
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RE: 9299-21833-18
Date Samples Rec'd 4-29-86
Project 2029-13-03

REPORT OF ANALYSIS

ALR Designation	9299-21833-18-1	9299-21833-18-3	9299-21833-18-8
Sponsor Designation	Solar Pond 2078-A3	Solar Pond 2078-A5	Solar Pond 2078-85
	North Northwest Corner 4-29-86	North Northwest Corner 4-29-86	North Central 4-29-86

Determination: $\mu\text{g/L}$

Aluminum, total	200U	--	--
Antimony, total	60U	--	--
Arsenic, total	10U	--	--
Barium, total	200U	--	--
Beryllium, total	5U	--	--
Cadmium, total	5U	--	--
Calcium, total	198000	--	--
Chromium, total	5U	--	--
Cobalt, total	20U	--	--
Copper, total	[14]	--	--
Iron, total	[90]	--	--
Lead, total	5U	--	--
Magnesium, total	72600	--	--
Manganese, total	15	--	--
Mercury, total	0.2U	--	--
Nickel, total	50	--	--
Potassium, total	56100	--	--
Selenium, total	9	--	--
Silver, total	5U	--	--
Sodium, total	451000	--	--
Thallium, total	10U	--	--
Tin, total	400U	--	--
Vanadium, total	50U	--	--
Zinc, total	22	--	--
Phenols	--	3	46

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Mr. Mark Selman
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RE: 9299-21833-18
Date Samples Rec'd 4-29-86
Project 2029-13-03

REPORT OF ANALYSIS

ALR Designation	9299-21833-18-12	9299-21833-18-16
Sponsor Designation	Solar Pond 2078-C5 North (Northeast) 4-29-86	Solar Pond 2078-05 Field Blank 4-29-86

Determination: $\mu\text{g/L}$

Aluminum, total	--	--
Antimony, total	--	--
Arsenic, total	--	--
Barium, total	--	--
Beryllium, total	--	--
Cadmium, total	--	--
Calcium, total	--	--
Chromium, total	--	--
Cobalt, total	--	--
Copper, total	--	--
Iron, total	--	--
Lead, total	--	--
Magnesium, total	--	--
Manganese, total	--	--
Mercury, total	--	--
Nickel, total	--	--
Potassium, total	--	--
Selenium, total	--	--
Silver, total	--	--
Sodium, total	--	--
Thallium, total	--	--
Tin, total	--	--
Vanadium, total	--	--
Zinc, total	--	--
Phenols	3	4

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RE: 9299-21741-27
Date Samples Rec'd 4-15-86
Project 2029-13-03

REPORT OF ANALYSIS

ALR Designation	9299-21741-27-1	9299-21741-27-4	9299-21741-27-7
Sponsor Designation	1B3 (BZ)	1C3 (BZ)	2B3 (BZ)
	Composite 1	Composite 1	Composite 2
	<u>0-6" depth</u>	<u>6-12" depth</u>	<u>0-6" depth</u>

Determination: mg/kg,
dry wt.

Aluminum, total	8190	8640	6540
Antimony, total	38U	37U	38U
Arsenic, total	6.3U	10F	7.0
Barium, total	126U	123U	128U
Beryllium, total	3.2U	3.1U	3.2U
Cadmium, total	3.2U	3.1U	3.2U
Calcium, total	[1660]	[1100]	[1320]
Chromium, total	11	10	9.0
Cobalt, total	13U	[22]	[12]
Copper, total	[6.9]	[6.6]	[8.4]
Iron, total	9080	12400	9610
Lead, total	31	19	29
Magnesium, total	[1240]	[1030]	[997]
Manganese, total	274	293	247
Mercury, total	0.1U	0.1U	0.1U
Nickel, total	[13]	[16]	13U
Potassium, total	[1390]	[1100]	[1260]
Selenium, total	3.2U	3.1U	3.2U
Silver, total	3.2U	3.1U	3.2U
Sodium, total	63U	62U	64U
Thallium, total	6.3U	6.2U	6.4U
Tin, total	25U	25U	26U
Vanadium, total	32U	38	32U
Zinc, total	33	23	29
Phenols	0.3U	0.5	0.3U

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Mr. Mark Selman
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RE: 9299-21741-27
Date Samples Rec'd 4-15-86
Project 2029-13-03

REPORT OF ANALYSIS

ALR Designation	9299-21741-27-10	9299-21741-27-13	9299-21741-27-16
Sponsor Designation	2C3 (BZ)	3B3 (BZ)	3C3 (BZ)
	Composite 2 6-12" depth	Composite 3 0-6" depth	Composite 3 6-12" depth

Determination: mg/kg,
dry wt.

Aluminum, total	7640	6740	7200
Antimony, total	37U	38U	38U
Arsenic, total	6.1U	6.4	6.3U
Barium, total	122U	128U	125U
Beryllium, total	3.0U	3.2U	3.1U
Cadmium, total	3.0U	3.2U	3.1U
Calcium, total	[1440]	[1400]	[1020]
Chromium, total	9.6	5.7	5.6
Cobalt, total	12U	13U	25
Copper, total	[9.1]	[8.3]	[9.9]
Iron, total	10200	9580	10900
Lead, total	16	17	15
Magnesium, total	[1060]	[976]	[883]
Manganese, total	196	215	285
Mercury, total	0.1U	0.1U	0.1U
Nickel, total	[17]	[13]	13U
Potassium, total	[1250]	[1190]	[951]
Selenium, total	3.0U	3.2U	3.1U
Silver, total	3.0U	3.2U	3.1U
Sodium, total	61U	[68]	63U
Thallium, total	6.1U	6.4U	6.3U
Tin, total	24U	26U	25U
Vanadium, total	30U	32U	31U
Zinc, total	30	25	20
Phenols	0.2U	0.3U	0.3U



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May 30, 1986
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RE: 9299-21732-9
Date Samples Rec'd 4-14-86
Project 2029-13-03

REPORT OF ANALYSIS

ALR Designation	9299-21732-9-1	9299-21732-9-4	9299-21732-9-7
Sponsor Designation	1A3 (BZ)	2A3 (BZ)	3A3 (BZ)
	Composite 1	Composite 2	Composite 3
	<u>Surface Scrape</u>	<u>Surface Scrape</u>	<u>Surface Scrape</u>

Determination: mg/kg,
dry wt.

Aluminum, total	8770	9140	9050
Antimony, total	40U	41U	41U
Arsenic, total	6.7U	6.8	6.8U
Barium, total	133U	135U	135U
Beryllium, total	3.3U	3.4U	3.4U
Cadmium, total	3.3U	3.4U	3.4U
Calcium, total	[1840]	[1930]	[1960]
Chromium, total	10	10	13
Cobalt, total	13U	14U	14U
Copper, total	[9.6]	[9.7]	[10]
Iron, total	11000	11400	12300
Lead, total	38	48	42
Magnesium, total	[1360]	[1490]	[1350]
Manganese, total	272	337	286
Mercury, total	0.1U	0.1U	0.1U
Nickel, total	13U	[13]	14U
Potassium, total	[1700]	[1860]	[1750]
Selenium, total	3.3U	3.4U	3.4U
Silver, total	3.3U	3.4U	3.4U
Sodium, total	67U	[217]	[140]
Thallium, total	6.7U	6.8U	6.8U
Tin, total	27U	27U	27U
Vanadium, total	33U	34U	34U
Zinc, total	41	49	44
Phenols	0.3U	0.3U	0.3U

CC/dh *jl*

Hyde Herczegheker for CC
Cathy Cairns
Project Manager

Accu-Labs Research, Inc.
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(303) 423-2766

July 21, 1986
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Mr. Mark Selman
Roy F. Weston
938 Quail Street
Denver, CO 80215

RE: 9299-21884-6
Date Samples Rec'd 5-7-86
Project No. 2029-13-03-01

REPORT OF ANALYSIS

ALR Designation	9299-21884-6-2	9299-21884-6-4
Sponsor Designation	207A-86	207A-86
	<u>Solar Pond 207A</u>	<u>Solar Pond 207A</u>

Reactivity, mg/L:

Cyanide	--	19
Sulfide	--	*

Corrosivity-pH

-- 9.9

Ignitability, °C

-- >100

Total Cyanide, mg/L

9.4 --

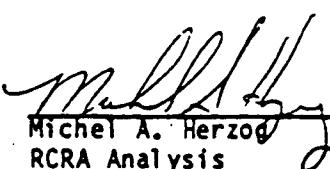
Hexavalent Chromium, mg/L

-- <0.01

*Not analyzed due to insufficient sample.

MAH/dh

dl


Michel A. Herzog

RCRA Analysis

23-1500



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Mr. Mark Selman
Roy F. Weston
938 Quail Street
Denver, CO 80215

RE: 9299-21856-6
Date Samples Rec'd 5-1-86
Project No. 2029-13-03-01

REPORT OF ANALYSIS

ALR Designation	9299-21856-6-2	9299-21856-6-4
Sponsor Designation	207A-A4	207A-A6
	Solar Pond 207A	Solar Pond 207A
	Northwest	Northwest

Reactivity, mg/L:

Cyanide	--	*
Sulfide	--	**

Corrosivity-pH -- 9.8

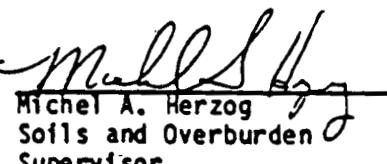
Ignitability, °C -- >100

Total Cyanide, mg/L 11 --

Hexavalent Chromium, mg/L -- <0.01

*Not analyzed due to insufficient sample.

**Not calculated due to interferences.


Michel A. Herzog
Soils and Overburden
Supervisor

MAH/dh

dh



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July 23, 1986
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Mr. Mark Selman
Roy F. Weston
938 Quail Street
Denver, CO 80215

RE: 9299-21943-11
Date Samples Rec'd: 5-15-86
Project No. 2029-13-03

REPORT OF ANALYSIS

ALR Designation	9299-21943-11-2	9299-21943-11-4	9299-21943-11-9
Sponsor Designation	<u>207A-C4</u>	<u>207A-C6</u>	<u>207A-06</u>

Determination: mg/L

Reactivity:

Cyanide	--	*	*
Sulfide	--	*	<10
Corrosivity-pH	--	9.8	6.6
Ignitability, °C	--	>100	>100
Total Cyanide	17	--	--
Hexavalent Chromium	--	0.02	<0.01

*Not analyzed due to insufficient sample.

MAH/dh
dh

Mitchell A. Herzog
Mitchell A. Herzog
RCRA Analysis

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July 21, 1986
Page 1 of 1

Mr. Mark Selman
Roy F. Weston
938 Quail Street
Denver, CO 80215

RE: 9299-21907-6
Date Samples Rec'd 5-12-86
Project No. 2029-13-03-01

REPORT OF ANALYSIS

ALR Designation	9299-21907-6-2	9299-21907-6-4
Sponsor Designation	207A-SC4	207A-SC6
	Solar Pond 207A	Solar Pond 207A
	SW Corner	SW Corner
	<u>Sediment C-Composite</u>	<u>Sediment C-Composite</u>

RCRA EP Toxicity, mg/L:

Arsenic	--	0.04
Barium	--	<0.2
Cadmium	--	4.5
Chromium	--	0.86
Lead	--	0.11
Mercury	--	0.001
Selenium	--	<0.005
Silver	--	<0.02

Reactivity, µg/g:

Cyanide	--	6.3
Sulfide	--	•

Corrosivity-pH	--	9.0
Ignitability, °C	--	>100
Hexavalent Chromium, mg/L	--	0.01
Total Cyanide, µg/g	6.5	--

*Not calculated due to interferences.

MAH/dh

Michel A. Herzog
RCRA Analysis



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July 21, 1986
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Mr. Mark Selman
Roy F. Weston
938 Quail Street
Denver, CO 80215

RE: 9299-21823-20
Date Samples Rec'd 4-28-86
Project No. 2029-13-03

REPORT OF ANALYSIS

ALR Designation	9299-21823-20-4	9299-21823-20-6	9299-21823-20-10	9299-21823-20-12	9299-21823-20-16
Sponsor Designation	LB4	LB6	LC4	LC6	LD4
	Interceptor Trench Pump House <u>Sample B</u>	Interceptor Trench Pump House <u>Sample B</u>	Interceptor Trench Pump House <u>Sample C</u>	Interceptor Trench Pump House <u>Sample C</u>	HPLC Distilled Water
Reactivity, mg/L:					
Cyanide	--	<0.05	--	<0.05	--
Sulfide	--	<10	--	<10	--
Corrosivity-pH	--	7.8	--	8.0	--
Ignitability, °C	--	>100	--	>100	--
Total Cyanide, mg/L	<0.05	--	<0.05	--	<0.05
Hexavalent Chromium, mg/L	--	<0.01	--	<0.01	--

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July 21, 1986
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Mr. Mark Selman
Roy F. Weston

RE: 9299-21823-20
Date Samples Rec'd 4-28-86
Project No. 2029-13-03

REPORT OF ANALYSIS

ALR Designation
Sponsor Designation

9299-21823-20-18
LB6-LC6-LD6
HPLC Distilled Water

Reactivity, mg/L:

Cyanide
Sulfide

<0.05
<10

Corrosivity-pH

6.7

Ignitability, °C

>100

Total Cyanide, mg/L

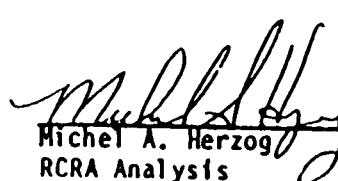
--

Hexavalent Chromium, mg/L

<0.01

MAH/dh

dh


Michel A. Herzog

RCRA Analysis



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July 21, 1986

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Mr. Mark Selman
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Denver, CO 80215

RE: 9299-21833-18
Date Samples Rec'd 4-29-86
Project No. 2029-13-03

REPORT OF ANALYSIS

ALR Designation	9299-21833-18-2	9299-21833-18-4	9299-21833-18-7	9299-21833-18-9	9299-21833-18-11
Sponsor Designation	207B-A4	207B-A6	207B-B4	207B-B6	207B-C4
	Solar Pond 207B N-NW Corner	Solar Pond 207B N-NW Corner	Solar Pond 207B North (Central)	Solar Pond 207B North (Central)	Solar Pond 207B North (Northeast)
Reactivity, mg/L:					
Cyanide	--	<0.05	--	<0.05	--
Sulfide	--	<10	--	<10	--
Corrosivity-pH	--	8.0	--	7.9	--
Ignitability, °C	--	>100	--	>100	--
Total Cyanide, mg/L	<0.05	--	<0.05	--	<0.05
Hexavalent Chromium, mg/L	--	<0.01	--	<0.01	--

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July 21, 1986
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Mr. Mark Selman
Roy F. Weston

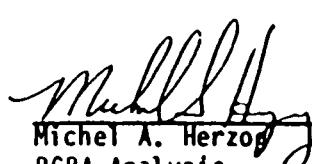
RE: 9299-21833-18
Date Samples Rec'd 4-29-86
Project No. 2029-13-03

REPORT OF ANALYSIS

ALR Designation	9299-21833-18-13	9299-21833-18-15	9299-21833-18-17
Sponsor Designation	207B-C6	207B-04	207B-06
	Solar Pond 207B	Solar Pond 207B	Solar Pond 207B
	<u>North (Northeast)</u>	<u>Field Blank</u>	<u>Field Blank</u>
Reactivity, mg/L:			
Cyanide	<0.05	--	<0.05
Sulfide	<10	--	<10
Corrosivity-pH	8.1	--	7.1
Ignitability, °C	>100	--	>100
Total Cyanide, mg/L	--	<0.05	--
Hexavalent Chromium, mg/L	<0.01	--	<0.01

MAH/dh

ds


Michel A. Herzog

RCRA Analysis



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May 16, 1986
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Mr. Mark Selman
Roy F. Weston
938 Quail St.
Denver, CO 80215

RE: 9299-21732-9
Date Samples Rec'd 4-14-86
Project No. 2029-13-03

REPORT OF ANALYSIS

ALR Designation	9299-21732-9-1	9299-21732-9-3	9299-21732-9-4	9299-21732-9-5	9299-21732-9-7
Sponsor Designation	1A3 (BZ)	1A4 (BZ)	2A3 (BZ)	2A4 (BZ)	3A3 (BZ)
	Composite 1	Composite 1	Composite 2	Composite 2	Composite 3
	Surface Scrape				

RCRA EP Toxicity, mg/L:

Arsenic	--	<0.005	--	<0.005	--
Barium	--	<0.2	--	<0.2	--
Cadmium	--	<0.005	--	0.006	--
Chromium	--	<0.01	--	0.01	--
Lead	--	<0.05	--	<0.05	--
Mercury	--	0.001	--	<0.001	--
Selenium	--	<0.005	--	<0.005	--
Silver	--	<0.02	--	<0.02	--

Reactivity:

Cyanide, µg/g	--	0.11	--	0.11	--
Sulfide, µg/g	--	<10	--	<10	--

Corrosivity-pH	--	5.7	--	5.6	--
Ignitability, °C	--	>100	--	>100	--
Hexavalent Chromium, mg/L	--	<0.01	--	<0.01	--
Total Cyanide, µg/g	0.17	--	0.16	--	0.10

May 16, 1986
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Mr. Mark Selman
Roy F. Weston

RE: 9299-21732-9
Date Samples Rec'd 4-14-86
Project No. 2029-13-03

REPORT OF ANALYSIS

ALR Designation
Sponsor Designation

9299-21732-9-8
3A4 (BZ)
Composite 3
Surface Scrape

RCRA EP Toxicity, mg/L:

Arsenic	<0.005
Barium	<0.2
Cadmium	0.005
Chromium	0.02
Lead	<0.05
Mercury	<0.001
Selenium	<0.005
Silver	<0.02

Reactivity:

Cyanide, $\mu\text{g/g}$	0.12
Sulfide, $\mu\text{g/g}$	<10

Corrosivity-pH

5.6

Ignitability, $^{\circ}\text{C}$

>100

Hexavalent Chromium, mg/L

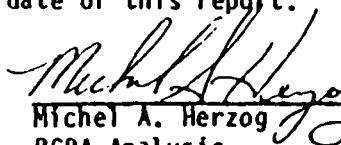
<0.01

Total Cyanide, $\mu\text{g/g}$

--

These samples are scheduled to be disposed of 45 days after the date of this report.

MAH/dh
JL


Michel A. Herzog
RCRA Analysis



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May 16, 1986
Page 1 of 4

Mr. Mark Selman
Roy F. Weston
938 Quail St.
Denver, CO 80215

RE: 9299-21741-27
Date Samples Rec'd 4-15-86
Project No. 2029-13-03

REPORT OF ANALYSIS

ALR Designation	9299-21741-27-1	9299-21741-27-2	9299-21741-27-4	9299-21741-27-5	9299-21741-27-7
Sponsor Designation	1B3 (BZ)	1B4 (BZ)	1C3 (BZ)	1C4 (BZ)	2B3 (BZ)
	Composite 1 0"-6"	Composite 1 0"-6"	Composite 1 6"-12"	Composite 1 6"-12"	Composite 2 0"-6"

RCRA EP Toxicity, mg/L:

Arsenic	--	<0.005	--	<0.005	--
Barium	--	<0.2	--	<0.2	--
Cadmium	--	<0.005	--	<0.005	--
Chromium	--	<0.01	--	<0.01	--
Lead	--	<0.05	--	<0.05	--
Mercury	--	<0.001	--	<0.001	--
Selenium	--	<0.005	--	<0.005	--
Silver	--	<0.02	--	<0.02	--

Reactivity:

Cyanide, µg/g	--	0.12	--	0.05	--
Sulfide, µg/g	--	<10	--	<10	--
Corrosivity-pH	--	5.7	--	5.7	--
Ignitability, °C	--	>100	--	>100	--
Hexavalent Chromium, mg/L	--	<0.01	--	<0.01	--
Total Cyanide, µg/g	0.10	--	0.05	--	0.08

Accu-Labs Research, Inc.

May 16, 1986
Page 2 of 4

Mr. Mark Selman
Roy F. Weston

RE: 9299-21741-27
Date Samples Rec'd 4-15-86
Project No. 2029-13-03

REPORT OF ANALYSIS

ALR Designation	9299-21741-27-8	9299-21741-27-10	9299-21741-27-11	9299-21741-27-13	9299-21741-27-14
Sponsor Designation	284 (BZ)	2C3 (BZ)	2C4 (BZ)	383 (BZ)	384 (BZ)
	Composite 2 0"-6"	Composite 2 6"-12"	Composite 2 6"-12"	Composite 3 0"-6"	Composite 3 0"-6"

RCRA EP Toxicity, mg/L:

Arsenic	<0.005	--	<0.005	--	<0.005
Barium	<0.2	--	<0.2	--	<0.2
Cadmium	<0.005	--	<0.005	--	0.005
Chromium	<0.01	--	<0.01	--	<0.01
Lead	<0.05	--	<0.05	--	<0.05
Mercury	<0.001	--	<0.001	--	<0.001
Selenium	<0.005	--	<0.005	--	<0.005
Silver	<0.02	--	<0.02	--	<0.02

Reactivity:

Cyanide, µg/g	0.08	--	<0.05	--	0.06
Sulfide, µg/g	<10	--	<10	--	<10
Corrosivity-pH	5.7	--	5.5	--	5.7
Ignitability, °C	>100	--	>100	--	>100
Hexavalent Chromium, mg/L	<0.01	--	0.01	--	0.06
Total Cyanide, µg/g	--	0.05	--	0.09	--

Accu-Labs Research, Inc.

May 16, 1986
Page 3 of 4

Mr. Mark Selman
Roy F. Weston

RE: 9299-21741-27
Date Samples Rec'd 4-15-86
Project No. 2029-13-03

REPORT OF ANALYSIS

ALR Designation	9299-21741-27-16	9299-21741-27-17	9299-21741-27-19	9299-21741-27-20	9299-21741-27-22
Sponsor Designation	3C3 (BZ)	3C4 (BZ)	1D3	104	1E3
	Composite 3 6"-12"	Composite 3 6"-12"	Composite 1 Surface Scrape	Composite 1 Surface Scrape	Composite 1 0"-6" Core

RCRA EP Toxicity, mg/L:

Arsenic	--	<0.005	--	<0.005	--
Barium	--	<0.2	--	<0.2	--
Cadmium	--	<0.005	--	<0.005	--
Chromium	--	<0.01	--	<0.01	--
Lead	--	<0.05	--	<0.05	--
Mercury	--	<0.001	--	<0.001	--
Selenium	--	<0.005	--	<0.005	--
Silver	--	<0.02	--	<0.02	--

Reactivity:

Cyanide, µg/g	--	<0.05	--	0.13	--
Sulfide, µg/g	--	<10	--	<10	--
Corrosivity-pH	--	5.7	--	5.9	--
Ignitability, °C	--	>100	--	>100	--
Hexavalent Chromium, mg/L	--	0.02	--	0.02	--
Total Cyanide, µg/g	<0.05	--	0.13	--	0.07

WESTON

SEP 29 1986

VOA ORGANIC ANALYTICAL DATA PACKAGE FOR ROCKY FLATS

DATE RECEIVED: August 21, 1986

SAMPLE DESCRIPTION	WESTON ID R.F.W. NUMBER	DATE COLLECTED	VOA ANALYSIS
ITPH-LAI	8608-682-0070	8/19/86	9/01/86
ITPH-SAI	8608-682-0080	8/19/86	9/01/86
ITPH-LB1	8608-682-0240	8/19/86	9/01/86
ITPH-LC1	8608-682-0250	8/19/86	9/01/86
ITPH-SB1	8608-682-0260	8/19/86	9/01/86

WESTON ANALYTICS
GC/MS D. A SUMMARY
VOLATILE HAZARDOUS SUBSTANCE LIST COMPOUNDS

RFW Batch Number: 8608-682-

Client: ROCKY FLATS

Page: 1

Sample Information	Cust ID:	ITPH-LAI	LAB DUP	MS	ITPH-SAI	ITPH-LBI	ITPH-LCI
	RFW#:	0070	0070	0070	0080	0240	0250
	Matrix:	Water	Water	Water	Water	Water	Water
	D.F.:	1	1	1	1	1	1
	Units:	ug/l	ug/l	ug/l	ug/l	ug/l	ug/l
		fl	fl	fl	fl	fl	fl
Chloromethane.....		1 U	1 U	1 U	1 U	1 U	1 U
Bromomethane.....		1 U	1 U	1 U	1 U	1 U	1 U
Vinyl Chloride.....		1 U	1 U	1 U	1 U	1 U	1 U
Chloroethane.....		1 U	1 U	1 U	1 U	1 U	1 U
Methylene Chloride.....		4 U	4 U	4 U	4 U	4 U	4 U
Acetone.....		2 U	2 U	2 U	2.5	2 U	2 U
Carbon Disulfide.....		1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethene.....		1 U	1 U	1 U	1 U	1 U	1 U
1,1-Dichloroethane.....		1 U	1 U	1 U	1 U	1 U	1 U
Trans-1,2-Dichloroethene.....		1 U	1 U	1 U	1 U	1 U	1 U
Chloroform.....	1.2	1 U	89 &	6.9	1.4		1 U
1,2-Dichloroethane.....		1 U	1 U	1 U	1 U	1 U	1 U
2-Butanone.....		1 U	1 U	1 U	1 U	1 U	1 U
1,1,1-Trichloroethane.....		1 U	1 U	1 U	1 U	3.1	4.8
Carbon Tetrachloride.....		1 U	1 U	1 U	1 U	1.6	2.1
Bromodichloromethane.....		1 U	1 U	69 &	1 U	1 U	1 U
1,2-Dichloropropane.....		1 U	1 U	1 U	1 U	1 U	1 U
Trans-1,3-Dichloropropene.....		1 U	1 U	1 U	1 U	1 U	1 U
Trichloroethene.....	3.7	2.2	2.9	1 U	2.5	2.4	
Dibromochloromethane.....		2 U	2 U	97 &	2 U	2 U	2 U
1,1,2-Trichloroethane.....		1 U	1 U	1 U	1 U	1 U	1 U
Benzene.....		1 U	1 U	1 U	1 U	1 U	1 U
cis-1,3-Dichloropropene.....		1 U	1 U	1 U	1 U	1 U	1 U
2-Chloroethylvinylether.....		2 U	2 U	2 U	2 U	2 U	2 U
Bromoform.....		4 U	4 U	4 U	4 U	4 U	4 U
4-Methyl-2-pentanone.....		1 U	1 U	1 U	1 U	1 U	1 U

RFW Batch Number: 8608-682-

Client: ROCKY FLATS

Page: 1

Cust ID: ITPH-LAI RFW#:	0070	LAB DUP 0070	MS 0070	ITPH-SAI 0080	ITPH-LBI 0240	ITPH-LCI 0250
Tetrachloroethene.....	1 U	1 U	1 U	1 U	1 U	1 U
1,1,2,2-Tetrachloroethane.....	1 U	1 U	1 U	1 U	1 U	1 U
Toluene.....	1 U	1 U	1 U	1 U	1 U	1 U
Chlorobenzene.....	1 U	1 U	1 U	1 U	1 U	1 U
Ethylbenzene.....	1 U	1 U	1 U	1 U	1 U	1 U
Styrene.....	1 U	1 U	1 U	1 U	1 U	1 U
Total Xylenes.....	1 U	1 U	1 U	1 U	1 U	1 U
1,2-Dichlorobenzene.....	1 U	1 U	1 U	1 U	1 U	1 U
1,3-Dichlorobenzene.....	1 U	1 U	1 U	1 U	1 U	1 U
1,4-Dichlorobenzenes.....	1 U	1 U	1 U	1 U	1 U	1 U
Trichlorofluoromethane.....	1 U	1 U	1 U	1 U	1 U	1 U
Dichlorodifluoromethane.....	1 U	1 U	1 U	1 U	1 U	1 U

U-Analyzed, not detected. B-Present in blank. NRP=Not Reported
J-Present at less than detection limit. NR=Not requested.

WESTON ANALYTICS
GC/MS D. A SUMMARY
VOLATILE HAZARDOUS SUBSTANCE LIST COMPOUNDS

RFW Batch Number: 8608-682- Client: ROCKY FLATS

Page: 2

Sample Information	Cust ID: ITPH-SB1	BLANK	BS
	RFW#:	BLANK	BS
	Matrix: Water	Water	Water
	D.F.:	1	1
	Units:	ug/l	ug/l
Chloromethane.....	1 U	1 U	1 U
Bromomethane.....	1 U	1 U	1 U
Vinyl Chloride.....	1 U	1 U	1 U
Chloroethane.....	1 U	1 U	1 U
Methylene Chloride.....	4 U	4 U	4 U
Acetone.....	2.2	2 U	2 U
Carbon Disulfide.....	1 U	1 U	1 U
1,1-Dichloroethene.....	1 U	1 U	1 U
1,1-Dichloroethane.....	1 U	1 U	1 U
Trans-1,2-Dichloroethene.....	1 U	1 U	1 U
Chloroform.....	1 U	1 U	1 U
1,2-Dichloroethane.....	1 U	1 U	1 U
2-Butanone.....	1 U	1 U	1 U
1,1,1-Trichloroethane.....	1 U	1 U	1 U
Carbon Tetrachloride.....	29	1 U	1 U
Bromodichloromethane.....	1 U	1 U	1 U
1,2-Dichloropropane.....	1 U	1 U	1 U
Trans-1,3-Dichloropropene.....	1 U	1 U	1 U
Trichloroethene.....	1 U	1 U	1 U
Dibromochloromethane.....	2 U	2 U	2 U
1,1,2-Trichloroethane.....	1 U	1 U	1 U
Benzene.....	1 U	1 U	113 &
cis-1,3-Dichloropropene.....	1 U	1 U	1 U
2-Chloroethylvinylether.....	2 U	2 U	2 U
Bromoform.....	4 U	4 U	4 U
4-Methyl-2-pentanone.....	1 U	1 U	1 U

RFW Batch Number: 8608-682-

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BLANK
BLANK

BS
BS

	f1	f1	f1	f1	f1	f1
Tetrachloroethene.....	1 U	1 U	1 U			
1,1,2,2-Tetrachloroethane.....	1 U	1 U	1 U			
Toluene.....	1 U	1 U	1 U			
Chlorobenzene.....	1 U	1 U	1 U			
Ethylbenzene.....	1 U	1 U	1 U			
Styrene.....	1 U	1 U	1 U			
Total Xylenes.....	1 U	1 U	114	J		
1,2-Dichlorobenzene.....	1 U	1 U	1 U			
1,3-Dichlorobenzene.....	1 U	1 U	1 U			
1,4-Dichlenzenes.....	1 U	1 U	1 U			
Trichlorofluoromethane.....	1 U	1 U	1 U			
Dichlorodifluoromethane.....	1 U	1 U	1 U			

U=Analyzed, not detected. B=Present in blank. NRP=Not Reported
J=Present at less than detection limit. NR=Not requested.